The geography of interacting with neighbours: a look at social interaction and residential built form

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Dedication

Glory be to God… For all that I have accomplished, You have done for me (Isaiah 26 verse 12b)

Abstract

The design of the residential environment can affect social interaction and positive interaction between people is identified as good for mental wellbeing. Studies which have looked at how the residential environment affect social interactions have revealed that certain residential built form types are apt to influencing more interaction than others. Currently, the evidence is: medium to low density with some features is favourable to social interaction. However what is missing in research is an identification of *how (manner)* interaction actually arises, *where* (a look at the spaces) it happens and *why (the motives)* that might be so. Such detail is important to influence policy decisions on making friendly residential spaces which enhance positive social interaction. This research therefore explored how residential environments in Edinburgh, i.e. the dwelling and spaces around it influence positive social interaction (with the notion that environments that encourage social interaction also enhance health and wellbeing). With health reports' still branding Scotland as the 'sick man of Europe' Edinburgh is considered an appropriate context to study; secondly there is lack of research of this kind in Scotland. Two residential areas were selected and in-depth information on social interaction was gathered from a sample based on their extensive use of the residential environment. E-data and visual data collection methods among other traditional methods like interviews were adopted. These methods enabled useful data on how, where and why social interaction happens to be collected.

The findings of the study show that: when people have a control over outdoor spaces close to their private dwelling irrespective of the dwelling type, this facilitates willing and positive interactions, an important element for mental wellbeing. Tenement dwellings therefore did not encourage much social interactions. This was because of the lack of control the tenement dwellers had over spaces around their private dwelling due to design issues. The outcome of the research will be useful for built-environment professionals. It will give them an insight into how 'day to day real life' social interaction happens and features and factors within the physical framework of the residential environment that trigger positive interactions. The study approach opens up methodological innovations required to embark on research of this kind. This is useful for planning for social sustainability, an essential objective in planning for salutogenic environments in spatial planning practice at present and for the future.

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To my friends, who made me think of what is necessary; focus on what is important and do what needs to be done, and tolerated me when I was at times intolerable…words cannot express my gratitude, a warm and a heartfelt thank you to you all.

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Glossary

BC – Before Christ

CABE - Commission fort Architecture and the Built Environment

ECBC - Edinburgh Cooperative Building Limited

GHQ12 - General Health Questionnaire 12

GLC - Greater London Council

ICBC - Industrial Cooperative Building Company

MMS - Multimedia Messaging Service

NHS - National Health Service

OS - Ordnance Survey

PAN - Planning Advisory Note

SAS - Self Actualization Scale

SMS - Short Messaging Service

SOC - Sense of coherence

SSQ - Social Support Questionnaire

Swb - Subjective wellbeing

SWEMBS - Short Warwick-Edinburgh Mental Wellbeing Scale

SWLS - Satisfaction with Life Scale

TCPA - Town and Country Planning Association

TEIQue - Trait Emotional Intelligence Questionnaire

USA - United States of America

WEMWBS - Warwick-Edinburgh Mental Wellbeing Scale

WHO - World Health Organisation

YWCA- Young Women's Christian Association

Chapter 1 Introducing the research

1.1 Background to the research – health and the built environment

Creating and promoting health enhancing communities to boost overall health and well-being is high on the agenda for planning practice in the UK (TCPA, 2014). Planning can adopt the role of medicine and plan places that are good for people's health and wellbeing (Brown and Grant, 2007). There are various ways to create a healthy environment. One is to make it friendly for the reason that positive social interactions are good for a person's mental well-being. This research therefore, examines how positive social interactions arise in the residential environment, by focusing on; *how* social interactions happen, *where* they happen and *why* they happen. Before discussing this particular interest (social interaction within the residential environment), it will be useful to give a background to the general subject of health within the built environment.

Health is not just about the absence of diseases but it is also about having a complete state of physical and mental wellbeing (WHO, 1948). Therefore there are a number of softer interventions that can be used to tackle health problems other than by the provision of health services which treat illness. One is by creating health enhancing/promoting environments, also referred to as 'salutogenic' environments. Salutogenics is a concept borrowed from Antonovosky regarding a focus on factors within the environment that support health and wellbeing rather than on factors that cause diseases (Antonovosky,1996). Over the past decade there has been a surge in interest about creating these health-enhancing environments by built environment professionals due to its great potential in affecting this aspect of human health (Burton, 2010).

The relationship between the built environment and health is complex and interdependent on a number of factors. A starting point for looking at this relationship is with the social model of health, also described as the policy rainbow (Davies and Macdowall, 2006). The model outlines the general social determinants of a person's health (Dahlgren and Whitehead, 1991). The social model of health diagram has been adapted and modified by built environment professionals to illustrate in a more detailed

way the factors within the built environment which affect people's health and wellbeing. See figure 1.1 below.

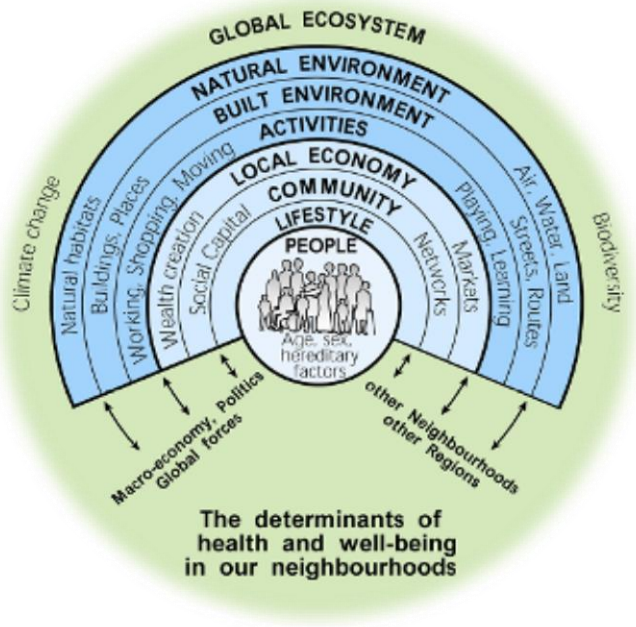


Figure 1.1 The updated social model of health by Barton and Grant (2009)

The updated model explains the fact that the built environment in itself has *an* influence on people's health and wellbeing, but the relationship is complex and hard to untangle. These complexities and difficulties are due to life factors, situations and social trends and elements that are increasingly dynamic when measured against built environment (Bramley et al, 2009). Further to that, different strands of relationships can be observed. Examples are: the built form supporting physical health through physical and vigorous activities such as cycling, running and walking (Frank and Engelke, 2001; Berrigan and Troiana, 2002; Giles-Corti and Donovan, 2002; Frumkin, 2004; Michael et al, 2006; Day, 2008; Nagel et al, 2008; Brown et al, 2008; Kerr et al, 2012; Whybrow, 2014); the built form and mental health where elements like life satisfaction, positive social behaviour, quality of life and satisfaction with the environment in relation to issues like control over internal environmental condition, the look of the environment/estate, noise, crime, overcrowding, access to facilities, are the consideration (Sirgy and Cornwell, 2002; Evans, 2003; Kearney, 2006; Guite et al, 2006; Gifford, 2007; Yang, 2008; Dempsey, 2008; O'Campo et al, 2009; Kweon et al, 2010; Burton and Sheehan, 2010;

Bond et al, 2012) and green spaces and mental health where the focus is on restoration and revitalisation (Dunnett and Qasim, 2000; Roe, 2008; CABE, 2009; Roe and Aspinall, 2011 and 2012; Gilchrist, 2013). Following the knowledge of the different strands, it is also important to acknowledgment the complexities of the built environment itself. The built environment is not uniform in any way and contains a spectrum of land use types including commercial, green space and residential. This research looks specifically at the residential environment and its links with mental well-being. The next paragraph briefly discusses the dynamics of mental well-being and its connection to the built environment and then finally the research focus.

Mental wellbeing explained in the area of positive health and psychology focuses on: the positive experience of the individual; fitness of the mind and spirit; individual realising his or her own abilities; dynamic state in which the individual is able to develop their potential; the betterment or burgeoning of the individual; the art of staying well in the mind and functioning well in society and having the potential, capability, capacity and motive for a healthier life (Diener, 2000; Seligman, 2002; Cooper et al., 2008; Kruger, 2010; Becker et al., 2010; Guðmundsdóttir, 2011). A main point is the ability of the individual to control their mind, i.e. the mental state which enables them to function well in society. Mental wellbeing differs from mental ill-health in the fact that mental ill-health which applies to a minority of the general population (Bond et al., 2012) is a 'behavioural deviation' from the norms expected of the human being in society (Edwards, 1981). Enhancing positive health (the mental wellbeing) is therefore important in promoting this well-balanced human who has the ability to manage life with all its stresses, better. Researching the residential built environment and its links with mental well-being will help to identify ways in which this aspect of health can be enhanced within the environment we live in considering the positive effects it has on the human being.

From the review of literature, the mental wellbeing-residential built environment relationship can be categorised into three categories namely, autonomy, restoration and social relationships. These three can be described as indirect relationships and are not mutually exclusive as they at times overlap. The sections below discuss each subject in detail.

Autonomy

Autonomy is the ability a person has to control the factors that affect their lives (Crawford et al., 2010, Barton et al., 2010). The control or lack of it appears to have a profound effect on the individual's mental health and wellbeing. Some refer to this ability to control issues pertaining to life as ontological security which is 'having confidence in ones place in society (Hiscock et al., 2010). This might include being happy and fulfilled in one's home or residential environment. There are a number of scenarios where one might not have autonomy over things that happen close to where they live.

One dimension for example, the inability to be part of governance or planning of an area by its residents is said to have an effect on the mental wellbeing of residents (Bond et al, 2012). Another dimension is when residents do not have control over anti-social behaviours and activities that occur in their immediate environment which is likely to affect them. This lack of control could be due to design issues resulting in lack or surveillance or territoriality (Newman, 1972; Yancey, 1972; Wilson and Kelling, 1982). Emotions such as fear anxiety and stress are likely to be produced in these instances which can affect mental wellbeing. Yet another dimension is an inability for people to manage poor housing and environmental conditions and places with a poor and a negative image These issues tend to have a negative effect on people (Atkinson and Kintrea, 2001; Evans, 2003; Guite et al, 2006). This has a lot to do with the financial power people have to choose where they live and buy their homes (Hiscock et al, 2010). The overall issue of not being able to have a reasonable control over factors that affect the comfort of living affects mental wellbeing.

Restoration

Restoration is linked to the opportunity the residential built form gives to the individual to recuperate from stressful life situations and is perhaps the most popular when linking the built environment to mental well-being (Burton, 2011). Restoration comes through the use of an available good quality green space (example private gardens), or aesthetically pleasing environment (Dunnett and Qasim, 2000; De-Vries et al., 2002; Woolley, 2003; Roe and Aspinall, 2012). Some have looked at how aspects of indoor and outdoor design directly affect lifestyle through daily use, including views of

greenery and an appearance of buildings and how this in turn affects wellbeing (Burton and Sheehan 2010) where satisfaction, happiness and contentment through the use is considered. The concept of restoration is connected to the theory of biophilia which states that there is a strong connection between a human being's psychological wellbeing and nature. Human beings tend to have an attraction towards objects and habitats of the natural environment and this attraction or attachment is known to produce positive feelings. It is even thought that where the manmade environment built form imitates nature it could have the same tendency to provide emotional and psychological wellbeing (Salingaros, 1999, Joye, 2007).

Social relationship examined through social capital

The third strand of the mental wellbeing and built environment relationship is from social capital. This third strand is what this research focuses on. Social capital is defined as the *'connections among individuals-social networks and the norms of reciprocity and trustworthiness that arise from them'* (Putnam, 2001 p 19. Therefore social capital may be regarded as associations' people make and the relationships they build by virtue of the opportunity to communicate with others. With regards to the residential built form, social capital is the opportunity people/residents have to engage in social activities with others as a result of moving about the built environment (Bramley et al., 2010). Associating with people has been identified as one of the most important factors which contribute to people's mental wellbeing (Halpern, 1995; Kawachi and Berkman 2001; Putnam, 2001; Clark and McCann, 2003; Frumkin et al., 2004; Barton, 2005; Marmot, 2005; Dolan et al., 2008; O'Campo et al., 2009; Skilton, 2009; Ochieng, 2011). Associating with people has benefits in particular the cognitive aspect of social capital which involves attitudinal manifestations in terms of the relationships people build with each other based on trust reciprocity and reactions to others (Yip et al., 2007). Perhaps it is because it projects a person's behaviour in the way he/she relates with others and the ability to get along with them in a satisfactory manner. Associating with and being connected to people has also been identified as a key to life satisfaction and happiness seen as a form of mental wellbeing (Kahneman and Krueger, 2006). Associating with people is an item often incorporated in tools used to measure mental wellbeing. A 'connection' to people can be at a superficial level, but is still regarded as good for mental well-being but close and personal relationships and trust and belonging are

described as *essential* to a person's wellbeing (Kawachi and Berkman, 2001). Social capital research to improve health and wellbeing is of interest to policy makers because it is considered as a cost effective way of promoting positive health and wellbeing (Marmot, 2010).

There are also negative effects of social capital on mental well-being related to isolation, lack of social support and also unreciprocated expectations and obligation of support which might have a negative impact on the individual (Rook, 1984; Halpern, 1995; Luo, 1997). Though there are negative effects, this research is more interested in the positive influences social capital has on mental well-being and how the design of the residential environment influences this social capital. In the light of this, it is useful to look at the connection between mental wellbeing and social capital with a focus on social relationships developed by social interactions.

Social relationships are built from *interactions* between people based on repeated passive contacts and chance encounters. Interactions can be described as the building blocks to connections and networking. Rummel (1976) defines social interactions as '*acts, actions, or practices of two or more people mutually oriented towards each other's selves'*. Social interaction is also behaviour that tries to affect or take account of each other's subjective experiences or intentions (Becker, 1974). The 'taking account' requires that the actors involved in the interaction are aware of each other. There should also be a mutual orientation towards each other. Rummel (1976) adds that this mutual orientation should be reciprocated to make it an 'interaction'. This act of reciprocation to an extent requires mental processing because one has to be aware of another presence and then be willing to exchange behaviour i.e. the interaction. This makes social interaction which is behaviour a useful variable in measuring mental well-being. As the study is interested in understanding the relationship between the residential built environment and mental wellbeing using social relationships (social interactions), it will be beneficial to give a brief overview of the connection (social interaction and the built environment).

Social interactions can be facilitated by the residential built form design features (Mykota and Muhajarine, 2005). Obviously, there are other factors which might affect social interaction within a neighbourhood apart from design features. One is the length of time a person has lived in an area and how this affects the formation of friendships/relationships and then differences in personalities and the willingness to

interact. However the use of the residential environment for activities might reveal certain patterns of interaction among people which might not be affected by time and differences in personalities but by good design. Good design features of the built form environment will always create a social convivial atmosphere (Gehl, 1987; Ortega-Andeane et al., 2005; Whyte, 2010), and therefore there is a need to explore this further. The next few paragraphs will explain this need.

1.2 The research problem

Social interaction is influenced by behaviour (Goffman, 1966). Where the built form influences behaviour, it has an indirect influence which affects mental wellbeing (Evans, 2003). This indirect influence is challenging to explain, and research in this area is limited (Evans, 2003; Burton, 2010; Kytta, 2011,) especially in the UK. Studies on how the spatial arrangements of residential areas affect social interactions have been carried out in different countries (Appleyard and Lintell, 1972; Yancey, 1972; Abu-Ghazzeh, 1999; Williams, 2005; Huang, 2006; du Toit et al., 2007; Brown et al, 2008; Bramley et al., 2009; Bramley et al., 2010; Rogers et al., 2010; Jenks et al, 2010). In terms of context, very few of these studies have been conducted in the United Kingdom (Jenks and Jones, 2010, Bramley et al., 2009, Williams, 2005). Two of these few studies are the most relevant to this study. The first examines social interaction as one element of social sustainability (Bramley et al., 2010; Jenks et al., 2010) within the residential built form and has therefore not sufficiently delved into the details of *how where or why* interaction happens. The study also makes it clear that the interest is not in social sustainability and its links with health. The other relevant study examines how social interaction happens within co-housing in England (Williams, 2005). Co-housing are not conventional residential dwellings so although the study goes into detail and presents findings on types of interactions it will be useful to get such findings for conventional dwelling types.

Another issue of major consideration is how social interaction has been studied. According to the definition of social interaction it could be simply striking an acquaintance or just acknowledging people and this is sufficient to be classified as social interaction. In the reviewed research studies, it has been found that usually a one

off account (either through a survey or an in-depth interview of residents) is given of how and also where people interact with others. Items such as, the ‘frequency' number of people one has met/recognises/know by name/chat with/visit/ have been used to identify ‘how’ social interaction is happening and also which density type reports the highest frequency of interactions. What the research studies do not capture or appreciate is the dynamism associated with social interactions and exactly where the social interaction is happening within these areas and also whether they are positive or negative and why that might be so. Knowing whether the interactions are positive or negative will highlight the manner of the interactions as well (see discussions in section 2.2 and 2.3).

Due to the multifaceted nature of the built form; the consideration of the state of the individual at any time of its use; context sensitivity issues; socio-economic and cultural variations, results, findings and conclusions made on social interaction behaviour is often nebulous (Rogers et al., 2010). Using a tick box or narrative examination and measurement tools approach does not allow one to appreciate how social interaction is really happening. Apart from the problematic measurement tools used in these other studies there has been a lack of objective approaches to measuring social interactions. If objective measures are adopted as part of the measurement of social interaction, coupled with the subjective measures, both could give near accurate accounts of social interaction. As well as an understanding of what triggers interactions in some spaces or what does not.

The link between social interaction and mental wellbeing is not always straightforward. That is not to say there isn’t an attempt, however for example, some studies even mention categorically that their interest in social sustainability is not particularly in connection to health though there might be some overlaps (Jenks et al., (2010). It is believed however that looking for positive social interactions perhaps is the ultimate way to connecting social interactions to mental well-being. It is worth noting that key ‘people-environment’[1] studies demonstrate that the methods of conducting research have always been challenging therefore questioning the finding of the research outcomes (Williams, 2005; Cozens and Hillier, 2008; Bramley et al., 2009; Burton, 2010; Kytta, 2011).

[1] Meaning examination of the effect of the environment on people’s health

It is clear at this point that there a number of issues that need addressing with regards to research that investigates how positive social interactions happen in the residential environment.

- Little research on social interactions within the residential environment in the UK
- Social interactions have not been not been explored in sufficient depth i.e. to get an appreciation of *how interactions happen*, *where interactions happen, the reasons and motives behind why they happen at certain spaces and whether they are health enhancing.*

It can be said therefore that there is a need for research that addresses these issues. This study has the objective to examine how the different residential environment (blocks, layout and pattern) in Scotland affects social interaction. This research attempts to do this investigation at the residential block level, which is implied is the most effective to study human behaviour (Rogers et al., 2010, Bramley et al., 2010). In the United Kingdom, sustainability is being promoted through spatial planning practices and out of it social sustainability (which includes social aspects of health and wellbeing) has received much attention. The Scottish Government aim to generally improve health and wellbeing in Scotland (Burns, 2010). As this research is interested in understanding how built environments can be health enhancing (of which social interaction is used as a health enhancer) this therefore puts the study in line with the objectives to promote social sustainability and healthy cities.

The research has been studied through the two elements which is, behaviour and space use. Social interaction is behaviour (Goffman, 1966 and Rummel, 1976), which is controlled by mental processes. It manifests through the use (moving about daily) of the residential environment and the opportunity to meet people (Bramley et al., 2009). Meeting people and interacting with them is good for mental well-being (Kahneman and Krueger, 2006). Where the residential environment encourages such positive meetings, it indirectly becomes a healthy environment. The study uses this analogy as its framework for the investigation and establishes an aim and objectives centred on this framework. Figure 1.2 attempts to present this framework.

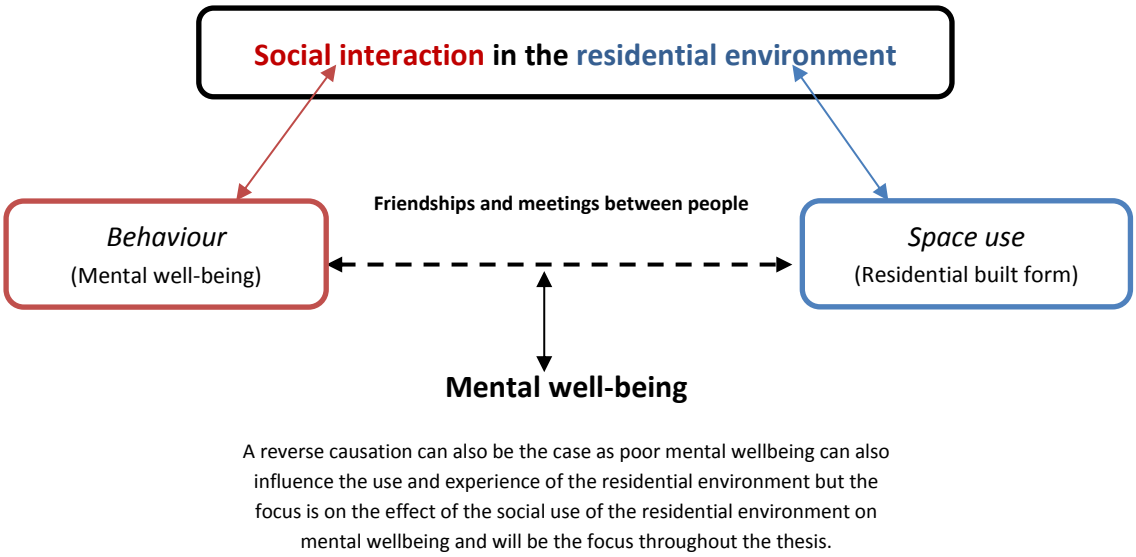


Figure 1. 2 The research framework

1.3 Aim and Objectives of the research

The aim of the research is to *examine how different residential built forms affect positive social interaction.* The residential environment mentioned here is the area surrounding the dwelling/home. To achieve this aim, the research has adopted mainly qualitative methods with the aim of obtaining a deeper understanding as well as to 'build up a clearer picture' which explains the how and why the design of the areas around the residential dwelling influences people's interactions (Green and Browne, 2005; Bramley et al., 2010). This overarching aim has been broken down in the list of points below.

- How social interactions happen
- Where social interactions happen and
- Why social interactions happens in these spaces

The following objectives (listed below) have therefore been established to achieve the overall research aim.

Objectives

1. To develop a conceptual model to explain social interaction and its connection to mental well-being.
2. To explore some of the concepts and theories which explain the use of residential built form.
3. To examine social interaction and how it is linked with the built environment
4. To assess how positive social interaction arises from space use within the different residential built form types
5. To make recommendations to planning practice and design standards to promote salutogenic residential environments

The resultant questions are

1. What theories define and explain social interaction and mental wellbeing?
2. What concepts and theories explain how the residential built is used?
3. How is social interaction linked with the built environment?
4. How does positive social interaction arise from space use within the different residential built form types? (Answered through the following sub questions)
    a) *What influences meetings between residents?*
    b) *Where do people meet to interact and which space is the friendliest interactional space?*
    c) *Are the interactions that occur in the spaces identified in b positive?*
5. What recommendations can be made to planning practice and design standards to promote salutogenic residential environments?

1.4 Research Design/Strategy

A case study strategy was used in this research. It is regarded as the most efficient strategy to use because it offers deeper insights into the research topic as compared to other research strategies. Further discussions on the reasons for choosing the case study strategy can be found in section 4.22.

The use of a case study strategy supports a deeper and a more detailed investigation of the type that is normally necessary to answer how and why questions (Rowley, 2002). Yin (1994 p 9) proposes case study, *when a "how" or "why" question is being asked about a contemporary set of events over which the investigator has little or no control.* The need for a deeper and more detailed investigation relates well the underpinning research objective listed in section 1.3. Again case study investigations are empirical inquiries, used when 'the boundaries between phenomenon (the event – social interaction) and context (the residential environment) are not evident' (Yin, 1994 p 13). This is too complex for a survey to decipher. As a method of inquiry; it relies on the use of multiple sources of data to triangulate for validation; it benefits from theoretical prepositions aiding in the development of the research plan and it is best used when there are more than one variable of interest in the study (social interaction -dependent variable and residential environment - independent variable).

To examine how social interaction is happening within different residential dwelling types in Edinburgh, two areas were identified and studied. The target group were people who spend more time in and use the residential environment more due to personal and social circumstance. A number of data collection methods were employed to achieve these objectives and validate the authenticity and reliability of the findings. These methods were also considered to capture the demographic group's unique patterns of movements and the residential environment space use to provide enriched useful data. Chapter 4 discusses these methods in further detail.

1.5 Thesis structure

This thesis has four parts. The first part discusses the theories behind social interactions and its relationship with the built environment. This has been carried out through discussing the concepts and the contextual associations which explain what social

interaction is and how it is associated with the residential built environment. This first part, which is covered by chapters 2 and 3, attempts to answer to objectives 1, 2 and 3. The second part of the thesis explains the process of the research through the methods undertaken and the context (the studied environment) of the study. This part is covered in chapters 4 and 5, and chapter 5 particularly attempts to meet objective 3 as well. The third part of the thesis is the analysis of the findings and this has been covered in chapters 6, 7 and 8, and therefore attempts to meet objective 4. The fourth part is presented in chapter 9. It discusses the summarised findings and the conclusions of the research. This part of the research meets objective 5.

1.6 Contribution to the body of research

As mentioned previously, past studies show that the physical environment has the ability to influence our patterns of movement, which then affects our social interaction. New research is needed to examine as well as understand *how* the physical environment influences these patterns of movement and which features within the physical environment are essentially useful for particularly positive social interaction which is good for mental wellbeing. The strategy adopted is a mixture of traditional and non-traditional qualitative methods (see chapter 4). The analysis undertaken (see chapters 6, 7 and 8) was useful in helping to appreciate how the areas and spaces around the residential dwelling influence social interaction among people.

The qualitative study, which is the first of its kind, helped to identify how space use affects behaviour both positively and negatively, which in turn affects how people relate with each other. The initial intention was to identify physical features that encourage positive social interaction, however, the research also revealed human factors which explains how the use of spaces within the micro residential environment may be convivial or not. The findings give built environment professionals an insight into how 'day to day real life' social interaction happens and features and factors within the physical framework of the residential environment that triggers positive and negative interactions. For academic professionals the study approach opens up other avenues for research for future. This is useful for planning for social sustainability; an essential theme in spatial planning practice at present and for the future.

Chapter 2 Understanding social interaction and mental wellbeing

2.1 Introduction

The previous chapter explained the research aim, which is to *examine how positive social interaction arises within the residential environment.* To help achieve the research aim some objectives and associated research questions were set. This chapter attempts to answer research question 1: *what theories explain the relationships between social interaction and mental wellbeing?* and aspects of research question 3: *how has social interaction been linked with the built environment?* The chapter will start with discussions on social interaction and its relationship to mental wellbeing followed by a brief look at how social interaction is linked to the built environment. A deeper exploration of the link between social interaction and the built environment will continue in chapter 3.

2.2 Social interaction

Interaction between humans is the main essence of social life and has been highlighted in contemporary sociological, anthropological and psychological literature as the basis of human behaviour (Becker, 1974). Social interaction is defined as 'acts, actions, or practices of two or more people mutually oriented towards each other. It is also any behaviour that tries to affect or take account of each other's subjective experiences or intentions' (Rummel, 1976). The taking account of each other's subjective experiences or intentions requires the actors involved in the interaction to be aware of each other. Where the act is even carried out just by one of the actors, for example spying, interaction does not occur. Simply put, social interaction is an exchange of behaviour between persons and this exchange does not have to happen only in a physical setting, it can happen also happen in a virtual environment.

Social interactions can be categorised into three main types. This categorisation is based on an analysis made of the various definitions given to social interaction in literature (Rummel, 1976; Scheinkman, 2008; Goffman, 2008; Moffitt, 2014):

- Direct cooperation or organized or focused or wanted or planned or latent or active interactions (for clarity purposes called ‘planned interactions’ hereafter)
- Indirect cooperation or unorganized, or disorganized or unfocused or unplanned or manifest or passive interactions (for clarity purposes called ‘unplanned interactions’ hereafter)
- Unwanted interactions.

Planned interactions occur when people come together to do things together with an intention to achieve something, so this type of interaction is time and place bound (Baum and Vallins 1977; Fleming et al, 1985 and Goffman, 2008; JRF, 2010; Rummel, 1976). Williams (2005) gives examples of how residents internationally take timeout to organise activities within the outdoor spaces around their homes because they found the space useful for it. Abu-Ghazzeh (1999) also gives an example of how residents embark on collective scheduled activities such as outdoor chatting for the benefit of all living in a neighbourhood. A benefit of such is outdoor activities is surveillance because of the people presence.

Unplanned interactions on the other hand is where people *without an intention* to do so, find themselves coming together to achieve something due to a common aim they have or also exchanging behaviour. Unplanned interactions can therefore range from simple acts such as smiling at each other, waving or winking at another person, to talking, discussing or debating and negotiating with another. Unplanned interactions are also loose and transitory in nature and may be identified as exchanges as people pass each other, as every day informal or chance encounters. They are also observable interactions between neighbours (Rummel, 1976, Baum and Vallins 1977; Fleming et al, 1985 and Goffman, 2008; JRF, 2010;).

Unwanted interactions may well be termed negative interactions and sometimes are also akin to conflict interactions. This happens when there is a clash of interests due to individual differences and beliefs or culture. Unwanted interactions and social contacts with people can lead to feelings of helplessness (Cohen, 1986). This is because when conflicts are in the extreme it is not beneficial. Examples may be litigating, threatening and even arguing and also physical aggression.

Interactions within these categories (planned, unplanned or unwanted) can be overt or covert, brief or long-lived, shallow or intense, narrow or universal (Rummel, 1976). The three types of interactions discussed here bring to mind that interacting in itself is dependent on other factors including culture. This means the way in which people interact with each other and action is often fed by our cultural processes or established norms and as a result varies according to different cultures. For example, in the West, people decline invitations to social events by giving simplistic excuses, whereas in Asia, China to be specific, people explain in detail reasons for declining an invitation (China teaching, 2014). It can be said that this action can be dependent on beliefs and way of life.

Culture is important in influencing social interactions. Worldwide, two types of culture can generally be identified, the collectivist and individualist cultures (Jary and Jary, 2000; Oyserman and Lee, 2008; Zha et al, 2010; Inglehart and Oyserman undated). Individualism is a focus on oneself and their immediate family, where self-fulfilment and personal autonomy is the emphasis. This has been attributed and associated with westernised cultures which include Scotland. The argument is that individualism stemmed from the movement of civic emancipation resulting in the individual's right to choose, a need for personal freedom and self-actualisation (Inglehart and Oyserman undated). Individualism induces self-confidence, acceptance, domination and impulsiveness because of the reference to the self (Zha et al, 2010). Collectivism is basically the opposite. It focuses on the collective self and specifically with obligation to extended family, social groups, and friends (Oyserman and Lee, 2008). These differences affect the life style and behaviour. For the collectivist groups, there is an interdependent perspective as such, actions always depend on group's perspective and a reverence for others more than self (Zha et al, 2010). The study focuses on the individualism culture in relation to social interaction because it is affiliated with the context within which social interaction is being examined in this study.

In the westernised world the expectation is that people will act in the way they wish because of individualism (Oyserman and Lee, 2008; Zha et al, 2010). Ironically, there is a norm of being polite which results in people interacting with others even when they do not want to. Information on particular countries this applies to is negligible. There is an expectation to act in a certain way, i.e. be friendly and say or respond to hellos from people you meet on the streets in your neighbourhood. Failure to do so, results in a

situation where one is seen to have failed in their mental process of interacting or relating with another human being (Frith and Frith, 2001). Frith and Frith, (2001 p 151) *state* that*, 'The success of social interaction depends on the development of brain systems that are geared to processing information in the social domain'* and the *'cognitive ability, namely, the ability to attribute mental states, such as desires, intentions, and beliefs, to oneself and to others, has a central role in human social interactions'.* Therefore, the ability to adhere to the accepted norm is required of people. This perhaps reflects how the practice of interacting as influenced by culture is a mental process, i.e. the recognition of another and then the action. Manski (1993) adds that sorting out the real cause of social interactions is very complex, as there are unobserved hidden issues that could affect the occurrence of social interactions. However, the main factor is the people involved, their individual characteristics and how group characteristics and behaviour influence them or vice versa (Manski, 1993). Basically it is about the power the person has to make social interaction happen. Reiterating the mental process social interaction requires, it is useful at this point to just discuss what mental well-being is and then the later section will attempt to connect social interaction to mental wellbeing.

2.2.1 Mental wellbeing

Mental health includes both mental ill-health and mental wellbeing (see section 1.1 of chapter 1). Mental wellbeing, which is the focus in this study, is an aspect of overall wellbeing along with physical and social wellbeing. Mental wellbeing involves the concepts of happiness, life satisfaction, quality of life, positive emotions and psychological well-being and all that is about a well-functioning mind. Two perspectives have been associated with mental wellbeing. The first being the attainment of pleasure and the absence of displeasure, i.e. the hedonic approach, and the second focuses on the human potential with an interest in autonomy, self-actualisation and self-acceptance, i.e. the eudaimonic approach (Hanlon and Carlise, 2009 and WellScotland, 2014). Hanlon and Carlise (2009) add that well-being is measured using either perspective, however though distinct, these perspectives overlap and can be seen in most tools used to assess and measure wellbeing. For example, a person's self-actualisation and autonomy (the eudaimonic) might be determined by the security of the

wealth they have. Also the state of a person mind, may afford him or her, the things they require to make them happy or content (the hedonic). An example might be loving relationships.

In our society today, there is almost a solution for every health problem that have afflicted us before, yet for our subjective wellbeing (all that happens in the mind) there seems to still be an ongoing quest to find solutions. It seems to be more the case with the west (Layard, et al 2005). Yes there might be the argument that it is all subjective, however, it is very important in determining our overall health, because even though this aspect of health can be influenced by other factors like money, materialism, consumerism and other things (including the environment), it is not guaranteed because of the dynamic nature of these factors. For example, Veenhoven (2005) in his study on the *inequality of happiness in nations*, shows that poor countries can show higher levels of happiness than rich ones. In countries like the USA, UK, continental Europe and Japan, happiness (subjective wellbeing) has become static since 1975 despite an increase in income levels (objective welfare). The two latter countries have experienced a bit of an increase after the stated time but not much (Veenhoven, 2005). It is important to emphasise that this concept of mental wellbeing is very much dependent on the state of mind.

A balance between the positive and negative emotions is advised to be the best way to assess an individual's overall mental wellbeing. To add to this, it is argued that there is a neutral state of emotion which is reached when negative emotions are gone and for that matter positive emotions as well (Fredrickson, 2002).

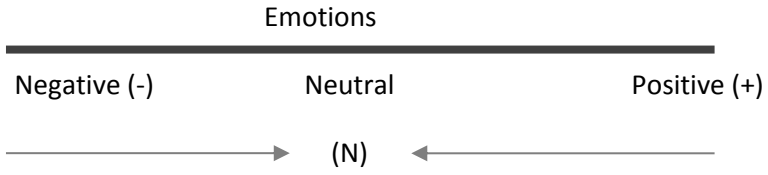


Figure 2.1 A balance of emotions for optimum (i.e. a neutral or a well-balanced state) mental wellbeing. Adapted from Halpern, 1995; Diener, 2000 and Guðmundsdóttir, 2011

Many factors can make person move from a neutral emotive situation to a negative emotive state(Guðmundsdóttir, 2011, Halpern, 1995) . These include, loss of a job, dissatisfaction in a job though this could be caused by other factors as well than just the job (Halpern, 1995) The opposite can move one from a neutral to a positive emotive state.

Becker et al (2010) argue that factors that continuously improve mental wellbeing should be pursued. However, based on this neutrality of emotions, is it possible to continuously improve mental wellbeing as emotions will continually neutralise these factors that are pursued to enhance positive health and optimization. Despite these difficulties attaining mental wellbeing is pursued. Attaining an acceptable level of wellbeing is of interest to a wide array of disciplines. This is because mental wellbeing is important for the functioning of people, which has a resultant effect on productivity and for life in general. For example, in economics, mental well-being is studied to understand consumerism and labour markets. About 3000 studies are reported to have been published on this subject matter (Nettle, 2005 cited in Hanlon and Carlise, undated), suggesting the importance of it.

Mental well-being has been defined in various ways. Kruger (2010) explains wellbeing as not related only to happiness, physical health and wellness but encapsulating the total positive experience of the individual within a 'community' or 'place'. According to Seligman (1998) mental health is the 'vibrant muscular fitness of the mind and spirit'. WHO (2001) defines mental health as, 'a state of wellbeing in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community'. Cooper et al., (2008) define it as 'a dynamic state in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community. It is enhanced when an individual is able to fulfil their personal and social goal and achieve a sense of purpose in society'. In the UK, wellbeing is said to be the self-reported subjective account and thoughts of people's feelings or perceptions of various aspects of their lives (Waldron, 2010).

From the definitions described above the main theme that runs through all is the ability of the individual to control their *mind,* i.e. the mental state which enables them to function *well* in society. These definitions follow psychological concept theories that define the human being as an individual with a free will. Based on this constructivist discussion, mental well-being can be best defined by the individual. It is therefore evaluative, meaning the cognitive judgments of how one feels about something, and hedonic, meaning the emotion with regards to people's moods and accounts they give of themselves (Waldron, 2010). From this perspective of a person judging their own mental well-being, it can be said that due to individual differences this judgment will largely depend on personality. Diener (2000) and Diener and Ryan (2009) uses the *telic, top down and bottom up and the evolutionary* theories listed in table 2.1 below to explain the differences in personalities and hence judgments on mental wellbeing.

Table 2.1 Selected theories of wellbeing associated with the person

Type of theory	Explanation of wellbeing
Telic theory	Contentment a person attains *only* when they reach a certain 'endpoint'.
Top down theory*/*Cognitive theory (personality)	A person's nature affects the way they view the world as well as experience it. A positive person will interpret events in a positive manner irrespective of other factors more than will a negative person.
Bottom up theory	Positive events affect a person's well-being positively and negative events will affect a person's wellbeing negatively
Evolutionary theory/ Relative standards or social comparison	The constant development of survival emotions from negative to positive.

Adapted from (Diener, 2000, Diener and Ryan, 2009)

If mental well-being is different for different individuals, then it can be complicated to measure in a societal sense. The question then is can mental wellbeing be effectively measured and can optimal health be achieved when the neutrality of emotions is considered? However, attempts have been made to measure mental well-being using a variety of *self-report* measurement scales. Recalling that the examination of social

interaction has led to this discussion of what mental wellbeing is, the next section will look at some of the tools used to measure mental wellbeing and identify how social interaction has been incorporated within them.

2.2.2 Measuring mental wellbeing

It has been established previously that mental wellbeing is culturally sensitive (section 2.2.1) and, as the study was conducted in the context of the UK (Scotland), emphasis will be laid on how it has been measured in this and similar environments. An attempt has therefore been made to examine measuring tools that incorporate hedonic (happiness and life-satisfaction) and eudaimonic (psychological functioning, good relationships with each other and self-acceptance) elements. Most importantly, scales that incorporate items on social relationships (obviously built by the different types of interactions) have been chosen. They are discussed below.

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) developed with National Health Service (NHS) Scotland is perhaps one of the most popular scales used to measure mental well-being. It is a scale which includes 14 items which addresses issues such as confidence, optimism, happiness, clear thinking, *closeness to others* etc. There is a shorter version (SWEMWBS) which uses 7 items. The ratings of the WEMWBS or SWEMWBS questions come out with scores of a range from 14 to 70 or 7 to 35 respectively. They are said to be reliable for measuring mental wellbeing because they have 'no floor or ceiling effects' (Stewart-Brown et al, 2009), meaning it allows for a better variation of mental wellbeing in the population known not to have a mental disorder' as well as being *'more suitable for measuring changes over time'* (Guðmundsdóttir, 2011; Stewart-Brown et al., 2009; Tennant et al., 2007).

Sense of coherence- SOC is another tool and it is the capability the individual has to use the tangible and intangible resources) available to them to develop buoyancy which helps to contribute towards their mental wellbeing. This capability which produces positive health is measured through *comprehensibility* (predicting life situations), *management* (i.e. the adequate use of resources available to meet needs) and *meaningfulness* (the meaning one makes of life and therefore makes an investment into or of it). SOC has been described as a valid and reliable measure of the factors that

increase a person's wellbeing (Becker et al., 2010). In various studies that were reviewed by Billings and Hashem, (2010) higher SOC scores have been associated with people with higher levels of education, employment, successful careers. SOC have been used as an outcome measure to show the benefits of social support for positive mental health in mental health service users. There are short and long versions relating to various aspects of the life of the person including social relationships people have (Billings and Hashem, 2010).

The *Subjective wellbeing (Swb)* scale *is* popularly used to explain and discuss happiness. Swb is people's affective and cognitive personal evaluation of their lives (Diener, 2000). The evaluations can be positive (happiness, pleasantness, joy) or negative (sadness); as such its measurement contains a number (multiple) of indicators. Like the previous two, this scale includes items on how people relate to others and their willingness to do so.

The *Satisfaction with Life Scale (SWLS*) is a five item scale mainly measuring satisfaction with life on a scale of 1-7. This scale does not include items on social relationships (Larsen and Griffin, 1985). The *Self-Regard Questionnaire* and the *Trait Hope Scale* and the *State Hope Scale* also do not include items on social relationships.
As the name suggests, the *Self-Regard Questionnaire* is a scale measuring sense of self, but incorporates items that measure overall well-being (Horowitz, M et al, 1996). The *Trait Hope Scale* and the *State Hope Scale* concentrate on how a person can manage situations they find themselves in on their own (Snyder, et al, 1996).

The Self Actualization Scale (SAS) is a 15 item scale measured by 'strongly agree to strongly disagree' which concentrates on the ability to express oneself freely (Jones and Crandal, 1991). The expressing of oneself freely is reflected on items about social relationships which are about doing what one wants or what is expected of them. Referring back to the issue of culture (see section 2.2.1), the items in this scale appreciate whether people relate with others because they want to or because they are expected to. A similar scale is the *Trait Emotional Intelligence Questionnaire (TEIQue),* which contains 150 plus items measured on a scale of 1 to 7. Questions asked include elements of the ability to control one's environment including the people around them, i.e. their willingness and ability to communicate with others (Petrides, 2001).

Whilst the scales mentioned so far incorporate a range of items to measure positive health, there are some that concentrate solely on social relationships. This perhaps shows that for some this is the sole measure for positive health. The *Social Relationship Scale* asks questions about who people talk to when situations (i.e. either good or bad about work, money, the home, personal health and society in general) arise (McFarlane et al, 1981). A similar scale is the *Social Support Questionnaire* (SSQ), which has a series of questions about who people go to for help and support on general life issues that are likely to arise (Sarason et al., 1983).

These different scales do a number of things which include: incorporate a wide array of factors relating to everyday life to understand how optimum mental wellbeing can be achieved; measure optimal health over a period of time and include positive and negative effects and demonstrate that one way of understanding optimum mental wellbeing is through human relationships. Adding further to the latter point, it is reported that a person who has many friends or social relations reports a higher wellbeing than those with less. In the same vein, people with higher self-reported wellbeing have the required social skills (confidence, sociable friendly) to enable them to generate their social environments (Diener and Ryan, 2009). It is also said that the social network of a person without any mental disorder is wider than that of a person with a mental disorder. The former will have social networks of about 25-40 people and 6 to 10 of these will be people they know well. This network declines considerably for a person with a mental disorder. They tend to have just their next of kin as their network (Mueller, 1980 cited in Halpern, 1995). Care must be taken however not to brand people with fewer networks as having a mental illness. An example will be introverts versus extroverts. Whereas extroverts might have a wider social network, introverts might not and this can only be attributed to personality types. Again these points just highlight the fact that social relationships are good for mental well-being.

The measuring tools examined above say one thing, which is relating with people, i.e. social relationships are good for mental wellbeing. Section 2.2.1 also mentioned the fact that relating with people is influenced by mental well-being because the act of social exchange in terms of behaviour requires some degree of mental effort. What is not clear is how social interaction itself affects mental wellbeing. Perhaps it might be argued that social interaction is the building block of social relationships and hence also has similar effects on mental wellbeing. But this is not entirely the case. Social interaction can build

social relationships but on its own it is just behaviour. However, because it is about connecting with people, somehow that is perhaps where the point can be made about there being a connection between social interaction and mental wellbeing. A conclusion such as this cannot be simply made. A query then is, can social relationships be simply classified as social interactions or are these two are different? And can social interaction on its own have any effect on a person's mental wellbeing? The section below attempts to find out.

2.3 Social relationships and mental wellbeing

People are reported to be at their best or have the best part of a day when they meet with and interact with other people and are happier when they are around other people (Kahneman and Krueger, 2006). Literature which talks directly about social interaction and its effect on mental wellbeing is negligible and rather there is a dearth of literature on social capital and its effect on mental health. Though this is useful there are numerous terminologies that fit under the umbrella of social capital that have to be untangled to help give a meaningful explanation of how sociability affects health. These terminologies include: social cohesion, social networking, social ties, social connections, social integration, social mixing, sense of community, social sustainability, social inclusion and social relationship. Of these the term social relationship has been selected as it was deemed the most appropriate concept to study in relation to social interactions. This is because basically social interactions build up to social relationships. Explaining this further, Berkman et al, (2000) state that, many words are used 'loosely' to describe social relationships (networks, ties, support, and integration) but Lochner et al.(1999) state that social interaction is the building block of social relationships, especially in the neighbourhood. It is useful at this point to look at the relationship between social relationships and mental wellbeing then.

To effectively explain the link between social relationships and mental well-being, some popular social relationship theories have been used. These are the Emile Durkheim's social relationships and mortality theory, also the suicide theory and John Bowlby's attachment theory. The suicide theory is explained as a situation where suicide is more of a social fact and results from a lack of societal integration and a breakdown of social relationships. In societies where there are high societal crises, as in the lack of control

over social norms there is a high despair rate and disintegration which leads to suicide (Kawachi and Berkman 2001).

Emile Durkheim explains further that in countries where societal crises (i.e. a breakdown of social ties and relationships) are high, there are higher rates of suicide. The reverse also results in low rates of suicide. Suicide might be seen as a breakdown in coping abilities which reflect the mental state of a person. The attachment theory explains that a secure attachment from an early age allows a person to grow and create affectionate bonds with people (within the internal family unit) as well as develop security of the self to help them operate in a wider society. This in turn helps in the establishment of strong stable and loving relationships (Kawachi and Berkman 2001). The suicide and attachment theories help explain that social relationships happen within a social system, i.e. a network of people who are governed by systems and situations. Understanding how this network system works will help highlight how social relationships are beneficial to people's mental well-being. The section below will examine the network system, which is a bit complex to begin with, but explains how social relationships are established for and with mental wellbeing benefits.

2.3.1 Understanding the network system – within which interaction happens

The social network system focuses on the characteristics and patterns of the relationship between individuals in a social system rather than the characteristics of the individuals (Manski, 1993 and Frumkin et al 2004). Henning and Lieberg (2007) say that the social network concept is the best thing to use to study social relationships. They define it as *'ways in which people construct their local group relationships as part of wider patterns of relations'* and *'It can be used as a metaphor for talking about relationships, as a general concept'* (Henning and Lieberg, 2007 p 4). Human relations consist of multiple layers that extend out from the ego, i.e. self. Beyond the self, egocentric networks are outer layers that produce social experiences These layers extend from the most intimate relations (e.g. marital ties), outward to social networks of strong ties (e.g. connections to close relatives and friends) to weak ties (for example work place relations community voluntary relations and religious organizational relations) (Kawachi and Berkman, 2001). These ties influence a flow of tangible and intangible

resources to people within the network. Some examples are support, influence and engagements, which are explained below.

Social support has been identified as the instrumental and financial help which is given in the form of tangible help, in kind, money and labour (House, 1981). It is also about the sharing of information in the form of advice or about services and needs or an appraisal which is in the form of help in decision making. Another dimension is emotional support which is in the form of love and care and sympathy and understanding being shared among people. *Social influence* is about the sources of influence for individuals or members and it has direct consequences on behaviour; examples are peer pressure, social comparison. The *critical mass* model is also another take on this which describes the situation where an individual will only take part in an activity if a majority of the population around them takes part in it (Schelling 1971 and Scheinkman, 2008). *Social engagements* are the social activities and functions that an individual gets involved in and which activates a feeling of a sense of belonging and attachment to other people or 'members in the group'. Rook (1984) states that behaviours are not the result of social experience but happen as a consequence of 'participating' in a meaningful social context.

For anyone to benefit from these network resources listed above, certain factors such as *the size of the network; the amount of time spent on relationships; the frequency of the support*; a *combination of emotional intensity; intimacy and reciprocity* are required (Granoveter, 1973; Berkman et al; 2000; Kawachi and Berkman, 2001). A combination of two or three of these factors mentioned above are likely to result in social relationships which are: *either horizontal and vertical* (Hall, 1999 & Borgonovi, 2010); *different in tie strength or in trust types* i.e., thin and thick trusts (Frumkin et al, 2004) and are either *bonds and bridges or links* (Putnam, 2001). These outcomes can simply be summarised into two main associations: strong ties and weak ties.

A strong tie is a result of a wide reliable network, which has been built over a long period of time and benefits from frequent, intense support. The results can be a rewarding and substantial relationship between two or more people. Thus strong ties will be close friends or people you go to in times of great need, emergency and crisis (for example to talk about a loss of a loved one, a job, a marriage, health) for some form of support (Granovetter, 1973; Putnam, 2001; Harvard Kennedy School, 2012). One

element that serves as the glue to combine the things mentioned above (time, emotional intensity, intimacy and reciprocity) is trust. Trust is the belief that people will act in ways that are appropriate and predictable (Clarke and McCann, 2003; Harvard Kennedy School, 2012). The trust that exists within a strong tie is therefore a 'thick trust'. Putnam (2001) defines thick trust as *'social relations based on personal relationships where there is more than time and familiarity investment*'. Granovetter, (1973) advises that perhaps the test of a strong tie should be based on continuity (time) as there is the likelihood that the tie can break. Negative ties can occur when strong ties break down due to friction or aggravation. This aspect of social networking is often not mentioned or addressed in literature. Relating this to trust, one might refer to it as broken trust. So simply put, strong ties are created by thick trust associations which could have developed through frequent associations and support over time.

Weak ties on the other hand are defined as more superficial and less deep when defined in terms of being important (Henning and Lieberg, 1997). They require minimal emotional intensity, intimacy and reciprocity (Granovetter, 1973). An example is asking for smaller favours such as the availability of a job or to borrow an insignificant item from other people you 'know' but not too well. Granoveter (1973) explains in his paper *'The Strength of Weak Ties'* that weak ties are very useful for such purposes. In terms of trust this might be referred to as 'thin trust' because, it is 'trust beyond an individual's actual network, into a more implicit sense of common networks and assumptions of eventual reciprocity' or social interactions based on general inclination of people to behave in a socially and morally acceptable way (Putnam, 2001; Harvard Kennedy School, 2012).

The definition of weak ties can be applied to bridging or linking social capital in that the social ties only link together people who are of perhaps different societies (i.e. in terms social class, race, and religion and therefore might not have much in common). The reason for this linkage might be due to an ability they all have to gain access to certain resources or share them (Putnam, 2001). An example will be a work-place setting (Harvard Kennedy School, 2012). For weak ties hierarchical influences are not necessary because the ties are weak anyway. Negative ties or broken trust might not exist with weak ties, thin trusts and bridging social capital because of the lack of strong emotional bonds between the parties involved. The absence of a tie should not be confused for a weak tie. When a tie is absent it is when the relationship between two or

more people is negligible so for example, a 'nodding' relationship, or a 'hello' relationship between a shop owner/vendor and a customer. In this regard, when people know each other by name, it is not necessarily an indication that they have any tie at all, unless the relationship is significant to both of them (Granovetter, 1973). The figure below attempts to present all the various social relationships within the different categories mentioned.

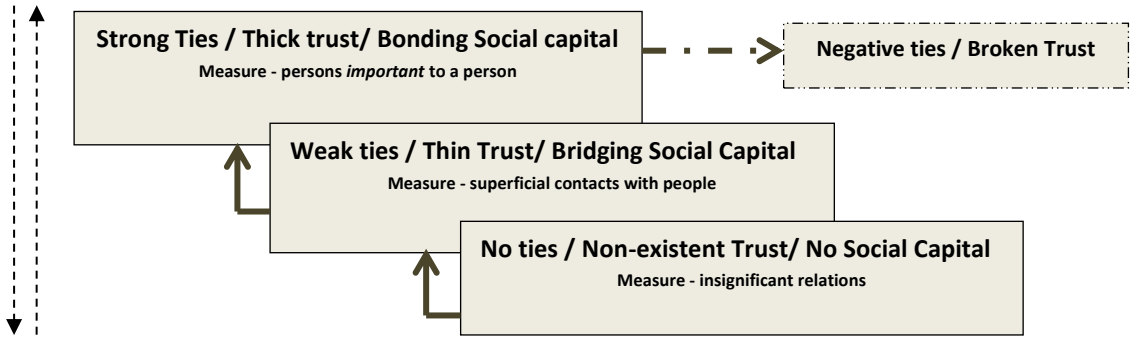


Figure 2.2 Various social ties within a social network

The arrows on the side reflect the fact that weak ties can develop into strong ties and vice versa. People can have no tie, to building weak ties which later become strong ties and the reverse. The sections above describe the dynamics of the network system. The next section therefore explores the social network system which is made up of different types of relationships and how these impact on mental wellbeing.

2.3.2 The social network and mental well-being

The social network system[2] impacts on a person's mental wellbeing in two ways. These are the stress buffer model and the main effect model. The stress-buffering model is speculated or perceived support which cushions and modulates the effects of stress. The perceived support could lead to a re-appraising of a situation in a positive more benign way which can have a reduction in the negative reaction to a stressful situation/event. As a result the person's coping mechanism is enhanced and they are able to deal

[2] Where strong and weak ties are produced

positively with the negative effects of stress. Even when support is speculated, it is still effective in influencing positive health and wellbeing. Self-esteem and self-worth can still be generated as a result of 'speculated' support (Kawachi and Berkman, 2001, Berkman et al., 2000). The main effect model on the other hand however is the direct effect on the health and mental wellbeing. The direct effects influence health enhancing behaviours which results in a sense of purpose, belonging, security, and self-worth, (Kawachi and Berkman, 2001 and Kawachi et al., 1999). When the social network system is fully operational it increases an individual's self-efficacy which, according to Berkman et al, (2000) is *'the degree of confidence persons have in their ability to perform specific behaviours'*….p 580. Cohen (1988) explains that this self-efficacy enhances self-esteem and worth, which we learn as useful to adapt to stress in life as well as build up a person's positive psychology. Berkman et al (2000) adds that 'ongoing network participation is essential for the maintenance of self-efficacy beliefs'. So as long as whatever happens within the network enhances a person's self-efficacy, then the result is positive well-being. Figure 2.2 below explains how the network system affects a person's mental wellbeing.

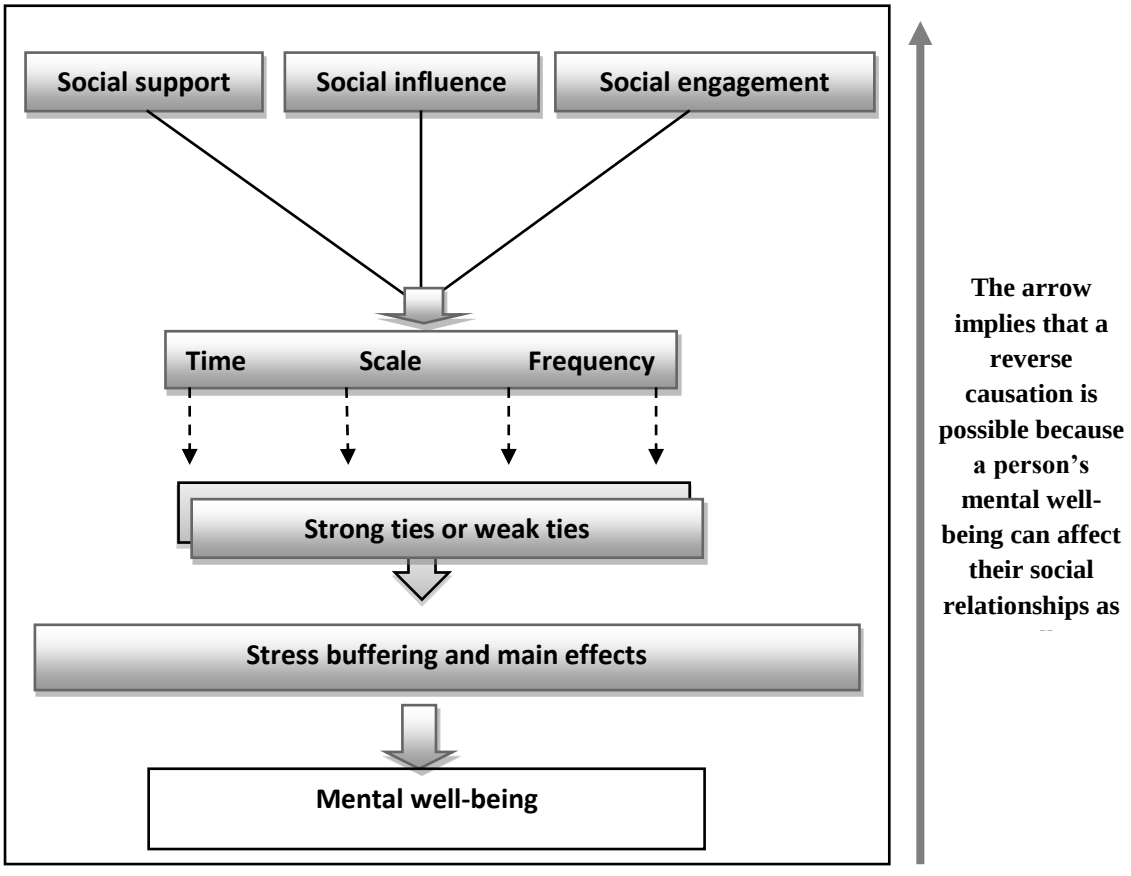


Figure 2.3 The social network system connected to mental wellbeing

The network and mental well-being for different groups

It has been established from sections above that having a social network is important for a mental wellbeing. However the effect of the social network system on a person's health varies. The variations are influenced by gender socioeconomic position and life stages. These are very critical in terms of social networking and the experiences they give.

Gender difference is one area where the variation can be clearly established. Fleming et al (1985, p 462) stated that, 'Women *report significantly higher rates of psychological distress than men, a finding that may be partly explained by gender differences in social network involvement'*. Women tend to have larger social networks and are reported to be more likely to preserve an intimate relationship than men, making them predisposed to stress or to suffer from other people's stress. They are also more likely to organise support in periods when support is needed. For example in emotional, stressful period and provide more valuable social support than men (Kawachi and Berkman, 2001). Socio-economic issues such as poverty or lack of resources limit how much support one can give as well as receive. This interestingly is reported to affect women more, particularly due to the observations listed above of their contribution to social capital/support. Also women tend to be susceptible to psychological burdens of having to reciprocate support once received, which itself can induce stress. Women have been associated with being responsible for social capital due to their traditional roles and affiliation of being the principal sources of informal care in the home and community (Clarke & McCann 2003, Bould, 2003).

Belonging to a religion or not is also said to have different effects on a person's mental well-being. The relationship between religion or a belief and a person's mental wellbeing is unclear. However, generally it is reported that people with religious affiliations, particularly where there is a strong involvement in activities such as praying with others, are reported to have higher levels of wellbeing. This could be through their belief giving them a sense of purpose and also through the social networking associated with the religious conviction (Seligman, 2002; Diener and Ryan, 2009).

The sections above have examined how social relationships generated within the network system, affect mental well-being. It will be useful to know how the interactions

that lead to the relationship affect mental wellbeing and whether there is a connection between the two. The sections below look into this.

2.3.3 Social network, social interactions and the connection to mental wellbeing

Section 2.3, explored the connection between social interaction and mental wellbeing, however, as found, the link between these two is not directly clear. Literature on this subject (social interaction and mental wellbeing) is negligible. So far, we see how social relationships affect mental wellbeing, because this link is more obvious. Social relationship (social relationships and mental wellbeing) has been explored through the network system and within the network system; there are two outcomes; strong ties and weak ties. This is perhaps the point where a connection can be made between social interaction and mental wellbeing, however there are complexities to appreciate.

It cannot be said that a strong tie is as a result of planned interactions and weak tie is as a result of unplanned interactions, though this might make sense. Unplanned social interactions are usually measured as waving, chatting, nodding, greeting by first names and more subtle and superficial forms of communicating with another (Baum and Vallins 1977; Fleming et al, 1985 and Goffman, 2008; JRF, 2010; Rummel, unknown date). Weak ties are also measured with acknowledgments, greetings/pleasantries knowing people by name only, collecting mail for people helping out superficially (Henning and Lieberg, 1997). There are some common elements between the two: unplanned interactions and weak ties (see figure2.4). However, the association seems to be more about the purpose of the interaction at the time it happens. So for example a weak tie may need planned interactions to settle some issues and a strong tie may have fewer or no planned interactions, but rather a series of unplanned interactions which might be meaningful to them. An example can be seen in a study by Williams (2005) where a friable community reported frequent meetings to discuss issues of concern within the housing community. Another cohesive community B reported fewer meetings because they did not need it (See section 3.3.2 of chapter 3). So it is difficult to say that strong ties produce only or are produced by planned interactions whereas weak ties produce or are produced by unplanned interactions and vice versa.

However, a strong or a weak social tie which may be as a result of planned or unplanned interaction, affects mental wellbeing through the stress buffering and main effect models. On the other hand, nevertheless, a weak tie or a strong tie can produce unplanned and planned social interaction because there are some similar characteristics between the tie and the interaction. We see examples in figure 2.3 below. A person experiencing either can still benefit from a main effect or stress buffering effect which helps mental wellbeing.

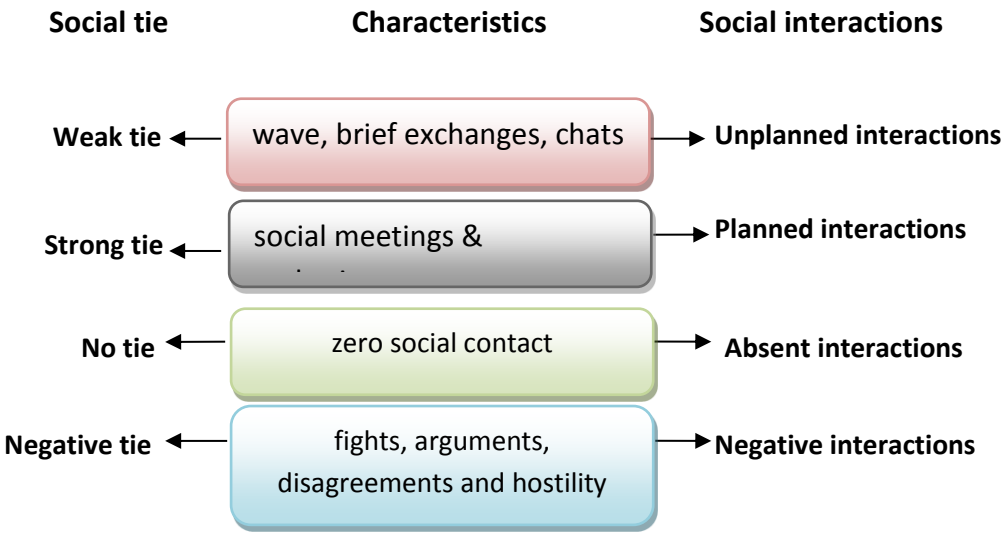


Figure 2.4 Similarities in character of the different ties and interactions

Again, it is impossible to pin down which social tie will have a more positive or a negative effect on mental wellbeing but there are possible effects. It is perhaps obvious for 'no tie', i.e. when people have no social tie then this is related to loneliness. Negative ties also result in negative emotions which are not good for mental wellbeing. Strong ties can also result in negative ties which negatively affect the mental wellbeing of the parties involved. The negative tie that comes from a strong tie can be as a result of over expectation, misunderstanding and even too much friction and unwanted support and affection and a burden to deliver. For example, Rook (1984) and Luo (1997) explain that for collectivist cultures where strong social ties dominate and there is an expectation on people to provide care and support, this can have a negative effect on mental wellbeing.

As mentioned in section 2.3.1, weak ties are plentiful compared to strong ties in the neighbourhood because they are the informal relationships created from everyday passive interactions (Newman, 1972; Yancey, 1972; and Abu-Ghazzeh, 1990; Heining and Lieberg, 1996; Williams, 2005). Weak ties are easier to make and keep and so more of them are generated. They are important in a neighbourhood in terms of securing and maintaining good relations, and are identified as important to home security (Henning and Lieberg, 1996). Another issue that explains why weak ties are more plentiful is the fact that too much intimacy between neighbours result in friction and this affects friendships. In the case where proximity inadvertently results in intimacy, neighbours establish 'control 'mechanisms to avoid intimacy and possible friction (Mosesson, 1991 cited in Heining and Lieberg 1996). The literature in Section 2.2 also explains how culture influences the types of interactions people have with each other. The context within which this study is examined is associated with an individualist culture whereby superficial social interactions are expected. It could well be that this is the reason weak ties are plentiful, because most interactions are superficial. It could also be that the weak ties have just a neutral effect on mental wellbeing which might be sufficient when compared to what no ties or negative ties will do. In this regard, unplanned interactions can be good for mental wellbeing even if the influence is not very huge. The study will however focus on both ties and interactions as it happens or as influenced by the residential environment (design/patterns/layout). The next chapter, (3), looks therefore at the link between social interactions and the residential environmental.

2.4 Conclusions

This chapter has provided an overview on what social interaction is and how it is connected to mental well-being. In doing so, it has extensively discussed some of the characteristics of mental well-being in terms of how it is assessed and measured and how this is connected to social network systems. The social network system was used to examine the effects of social relationships (which are as a result of social interactions) on a person's mental well-being. It was noted that linking social interaction to mental well-being is not so straightforward, but when done so through the different types of social relationships, a link could be appreciated. The effects of strong social ties on mental wellbeing could be more evident than that of the weak social ties, but that is not to say that weak ties have no effect, especially when they are positive. Strong social tie

relationships seem to be more as a result of planned interactions, whereas weak social ties relationships are from unplanned interactions. Social interactions, particularly unplanned interactions which again could have some sort of effect on mental wellbeing, are plentiful within the residential environment, hence clearly a resource. Because the research has an objective of investigating how residential environments can be health enhancing, there is an attempt to understand how certain use of spaces can result in 'happy' social interactions. Chapter 3 looks into what the evidence says so far.

Chapter 3 A look at social interaction within the built environment

3.1 Introduction

One way in which social interactions have been linked with the residential environment is through neighbouring defined as, 'social interaction between people living in close residential proximity' (JRF, 2010 p9), and social interactions by which residents establish social connections that are either personal or at the neighbourhood level' (Lochner et al, 1999 p262). This chapter focuses on this act of neighbouring within the residential environment. By doing so it attempts to fulfil objective 3 to examine social interaction and links with the residential environment. The chapter will first look at the sociability (making friends, getting on with neighbours, doing things with neighbours and general social relationships that happen within the residential environment) within the residential environment and second, it will then look at existing research on social interactions within residential environments. The examination of existing research will focus on outdoor spaces but it also looks at indoor spaces when required. The reason for including indoor spaces is to understand how the arrangement of some built forms affects interactions in general.

3.2 How the built environment affects social interaction (sociability)

The way we interact and relate with each other has a strong relationship with the arrangement of the built environment we live in. The built form arrangement alone does not do much but the understanding of its function and abilities is important to facilitate interactions. The inherent properties of the built environment for social interaction is best explained using the concept of affordance.

So what is affordance? James J Gibson pioneered the concept. According to him, *'affordances of the environment are what it offers the animal (human being), what it provides or furnishes either for good or ill'* (Gibson, 1979). Putting a personal spin on this concept, it is the various things that an object offers for functionality and the composition of an object constitutes what they can afford in terms of functionality. The

ability for the individual/person to recognise the various things an object can be to them or do for them is to an extent based on perception. Affordance feeds on perception because of individual subjectivity in judging, recognising or discerning things. Another way of describing this is using the constructivism concept. A person has a will and determines their world and the truth themselves rather than by external influences. To Gibson, (Gaver, 1996) affordance is based on *facts* which are seeing the space for the many things that it can be, whilst according to Norman (1988), it is based on perception. However affordance and human perception work hand in hand for affordance to make sense.

The main point being derived here is that affordance influences social interactions within the built environment. Gaver (1996) uses affordances to explain how the physical environment encourages social interactions. He argues that certain spaces will be acknowledged as spaces where one can interact with others whilst others will not. Therefore living in a particular dwelling type, could affect the dynamics, i.e. either planned or unplanned of your interactions with your neighbours. For example, the features of the dwelling such as the shape of the front porch and its exposure to the 'public' will encourage, or discourage planned or unplanned interactions (Brown et al., 2008).

The dynamics in interactions are determined by some factors which are best emphasised through discussing space use. As seen in figure 1.2 in chapter 1, social interaction within the built environment is influenced by behaviour and space use. To better explain how the built environment affects and influences interactions the focus will be on the space use aspect. The arrangement of the built environment, *'create and restrict encounter fields and the structure of these fields relate to the type of social network produced'* (Bellal, 2004).

When thinking about how the use of space influences different social interactions based on the affordance argument, there should be first of all available and appropriate space and then the space should afford either functional or physical proximity of people to ensure both unplanned and planned meetings (see figure 3.1 below) (Fleming et al., 1985 and Tims and Mean, 2005).

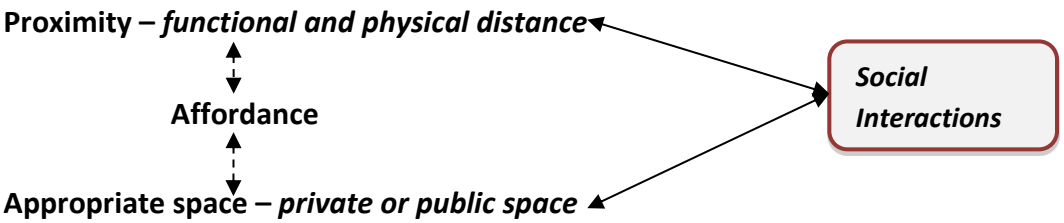


Figure 3.1 Main elements that affect social interactions within the built environment

Available and appropriate space covers a multitude of things which will be best expressed through examples. Abu-Ghazzeh (1999) studied how some built form patterns in Abu-Nuseir influence social interaction. He discovered in his research that different patterns of houses encourage different types of social interactions. Emphasis is placed on two patterns (see figure 3.2 below). In pattern 1 outdoor spaces were not clearly defined as in being private or public and were also were bigger and therefore had the character of a *'no man's land'*. The outdoor spaces were not well patronized for any form of social activity. Pattern 2, on the other hand, contained enclosed outdoor spaces which were considered personal and therefore used for social interactions.

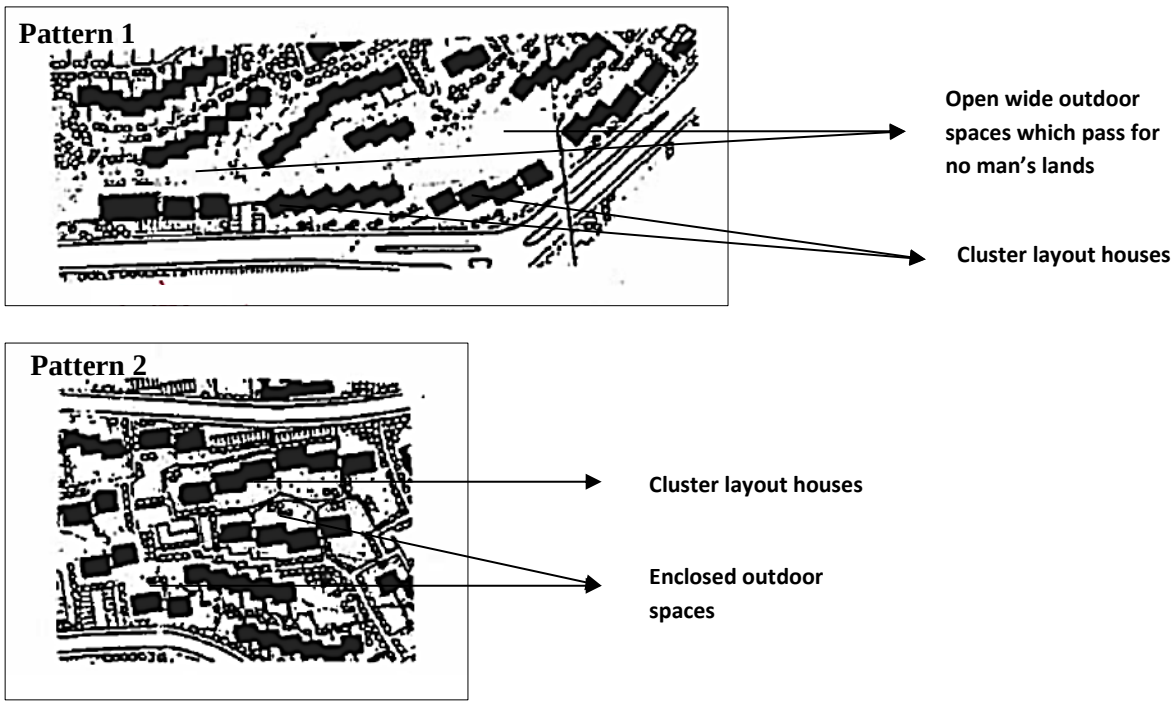


Figure 3.2 Available and proximal spaces for social interactions

(The cluster layout has been defined in section 3.3.1 below)

We see in the above example that the spaces were available but not appropriate in some context but were in another. Hence we can see how this affected social use and social interactions. As mentioned above, apart from the space being available and appropriate it must afford either functional or physical proximity of people to ensure both unplanned and planned meetings. The functional distance depends on the presence of a feature as the thing which induces passive contacts. For example, in block of flats, flat 1 may be closer to flat 5 instead of being closer to 2. The position of the stairwell within the block, may have resulted in flat 5 being closer to flat 2 rather than to flat 4 (Fleming et al, 1985). The physical distance on the other hand, is described as the 'measured distance' as such people who are closer are more likely to have passive contacts (Fleming et al, 1985) and resultant interactions. In the example given of Abu-Nusier above, the open space in pattern 2 had proximal advantage hence the high usage of the outdoor space by people or residents for social interactions.

The physical and functional distances are the outcome of the design and configuration of the built environment. With social interaction (i.e. planned and unplanned meetings) being *a potential* source to mental well-being (refer to discussions section 2.3.3), understanding how it happens within the arranged residential environment can be of potential benefit to enhancing health and well-being within residential environments. At this point, it will be useful to examine further some studies that have looked at how the arrangements of residential environments and other environments influence social interaction.

3.3 Evidence of the built forms influence on social exchanges and the benefits or otherwise accrued

People spend a considerable amount of time within the residential environment, whether they are in employment or not. For some groups the time spent 'at home' will be more, whilst for others it might be less, nevertheless, the home and its environment is an important element to everyone's life (Lindsay, 2010). Surprisingly, there is very little research which explores how the residential environment actually encourages positive social interactions. Planning policies on the usefulness of creating residential environments which encourage positive interactions among neighbours are not explicit.

In Scotland, the Scottish Planning Policy 2014 (SPP) does not say much about encouraging design for social sustainability[3]. The policy just mentions the need for good design to promote greater opportunities for social interaction[4]. The fact that this is mentioned is useful, but some form of elaboration or a supplementary guidance to expand will be useful. Smith (1977) adds that planners for some time failed to plan for places that acknowledge the human need for social congregation between people in our towns and therefore planned utilitarian places mainly meant to serve the everyday needs of people. For example, the physical layout of the suburban neighbourhoods is said to disconnect neighbours therefore bringing a fall in the social interaction which builds social capital (Putnam, 2000; Frumkin et al, 2004). The sections below will look at some examples in terms of research, of how spaces are used for social interactions. The first group of studies examine indoor environment and include some non-residential outdoor environments. The indoor environments are not all residential environments, to highlight the physical factors that influence the use of 'space' for social interactions.

3.3.1 Indoor environments –layouts

The research looked at in this section focuses on building layout types and their effect on social interaction. Whereas this research is interested in the urban design concept – layout which is a plan-unit which shows the arrangements of a number of urban form elements such as streets, plots and buildings in a unified design (Larkham and Jones, 1991), it will be useful to look at some internal building layout as well to help understand how this affects movement and sociability. The main types referred to in this section are cluster and linear layouts. Linear layout is simply a long narrow form or shape (Cowan, 2005). Cluster layout refers to a concentration and interconnection of blocks. The clustered layout has been associated with higher levels of interaction among

[3] Social sustainability is the acceptability of a place for people to live, work and interact. Bramley et al., (2010) explain that social sustainability is based on two concepts – social equity which focuses on accessibility, i.e. to services and facilities, and social sustainability of the community which looks at: social interaction between residents and social networking among other factors (autonomy, sense of and community participation, safety, stability in a place).

[4] 15 The SPP sets out how this should be delivered on the ground. By locating the right development in the right place, planning can provide opportunities for people to make sustainable choices and improve their quality of life. Well-planned places promote well-being, a sense of identity and pride, and greater opportunities for social interaction. Planning therefore has an important role in promoting strong, resilient and inclusive communities. Delivering high-quality buildings, infrastructure and spaces in the right locations helps provide choice over where to live and style of home, choice as to how to access amenities and services and choice to live more active, engaged, independent and healthy lifestyles. P 6

neighbours. The reason is because this layout type encourages nearness between neighbours and as per Fleming et al.'s (1985) point, proximity is important for social interactions.

Baum and Valins (1977) undertook a study looking at two school dormitory buildings and how their design affected the social behaviour of students. The first design consisted of a double loaded corridor with 17 rooms which housed 34 students with 2 students per room. The students all shared a lounge and a 'large' bathroom and a shared access way. The second layout adopted a suite design, with each suite housing a number of students and having own bathroom and lounge. The entire corridor housed 34 students but each suite housed a maximum of 6 students. The density of the two dormitories was the same but the layout was significantly different.

a **b**

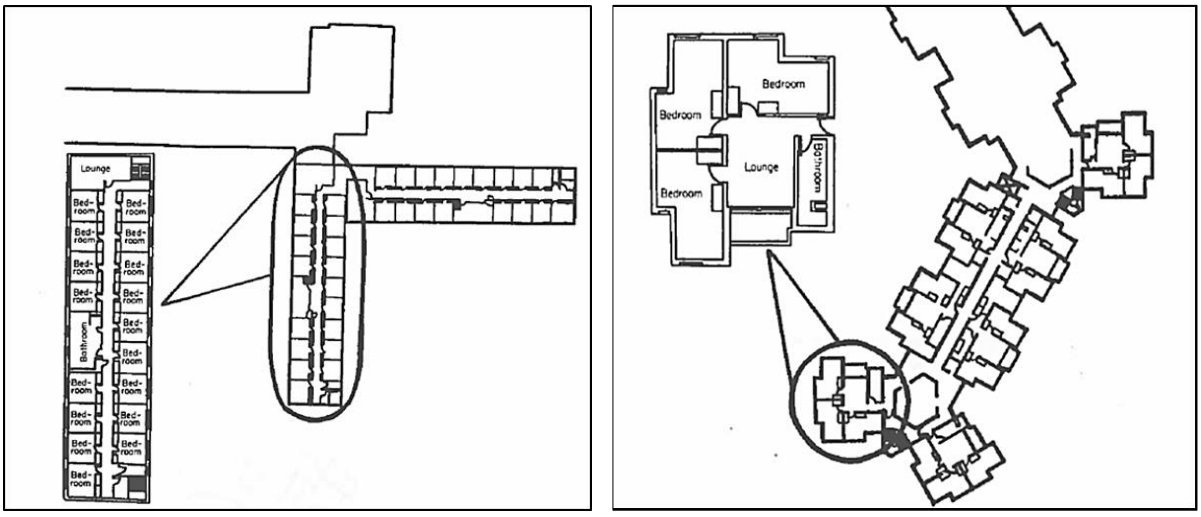


Figure 3.3 Showing corridor (a) and suite design (b) Source: Baum and Valins (1977)

*****The corridor design is a linear layout and the suite design is a cluster layout

Researcher participant observation was used to record social interaction behaviour. It was observed that for design 1, students initiated fewer conversations and avoided eye-contact with their schoolmates. The students living in the corridor layout, also complained of 'unwanted social encounters' and the fact that they had no control over how and when interactions occurred. This resulted in withdrawal by students as a means to manage the situation. This resulted in fewer or no interactions among students. The opposite was reported for students living in the suite design. Students were comfortable

talking to each other as they waited in lounges and exhibited willingness to take part in the participatory activities, while students in the corridor design, preferred to be ignored. According to Halpern (1995), the behaviour exhibited by students in corridor design could actually result in students falling into patterns of anti-social behaviour, and with this we see the effects of the patterns indirectly on behaviour that has psychological effects.

The outcome of Baum and Valins (1977) study is similar to that conducted by Festinger et al, (1950). The researchers observed as well as interviewed students living in a dwelling (few rooms close to each other and with shared facilities) and found that where there was an increased chance to bump into people, this was positively associated with making friends. After a period of time, students living within the same building had made more friends generally, i.e. with those they live close to and beyond. While this is not surprising, it goes to show that proximity created as a result of intimate spaces (clustering) increases chances for interactions that perhaps turn into strong ties in the end.

The concept of proximity definitely plays a part in encouraging interactions. It is fair to say that it is the case with the internal environments. An example is given of a study conducted by Wineman et al. (2009) on 82 academic professionals in a work place. The aim of the study was to find out how layout affects social networks and innovation an important indicator of mental wellbeing. The workspace layout affected informal friendships and communications critical to individual creativity in the industry. An analysis on integration, connectivity and step-depth, which is the length of steps that made up spaces within the office, was considered. It was found that the further apart colleagues were from each other in terms of space, the lower the chance to integrate (linear regression p=.010) with each other. Also the lower the chance and likelihood of them to co-author research in the work place. Again proximity was important in this instance. However proximity was not the only driving factor that influences interaction which had psychological benefits.

Another study by Rashid et al, (2009) looked at the behaviour of workers in an open plan clustered design real estate organisation and showed that face-to-face interactions was not necessarily as a result of proximity (see figure 3.4). Rather, having control over

movement patterns was more crucial to interactions. For example, in an open plan office where there was high accessibility and visibility or line of sight resulting in increased proximity, workers perceived themselves to have more privacy as well as reported higher rates of job satisfaction and contentment. Therefore the high accessibility and visibility meant the office environment was open in nature and people can easily move about.

There was a high rate of movement due to the 'high accessibility and visibility' design. This would naturally not be favourable to privacy, however the office workers reported privacy. This perception of privacy could be because the workers had the opportunity to control their interactions with others, as well as the freedom to move about within the space. So though proximity was important, the ability to control interactions was more important to work place relationships and resulted in positive psychological benefits. Also such positive interactions were encouraged by cluster design layouts rather than linear or row design layouts (Wineman et al, 2009). We see from Rashid et al.'s (2009) study that the new office plan which was a cluster layout encouraged more social interactions than the new office plan with a layout which was linear. See figure 3.4 below.

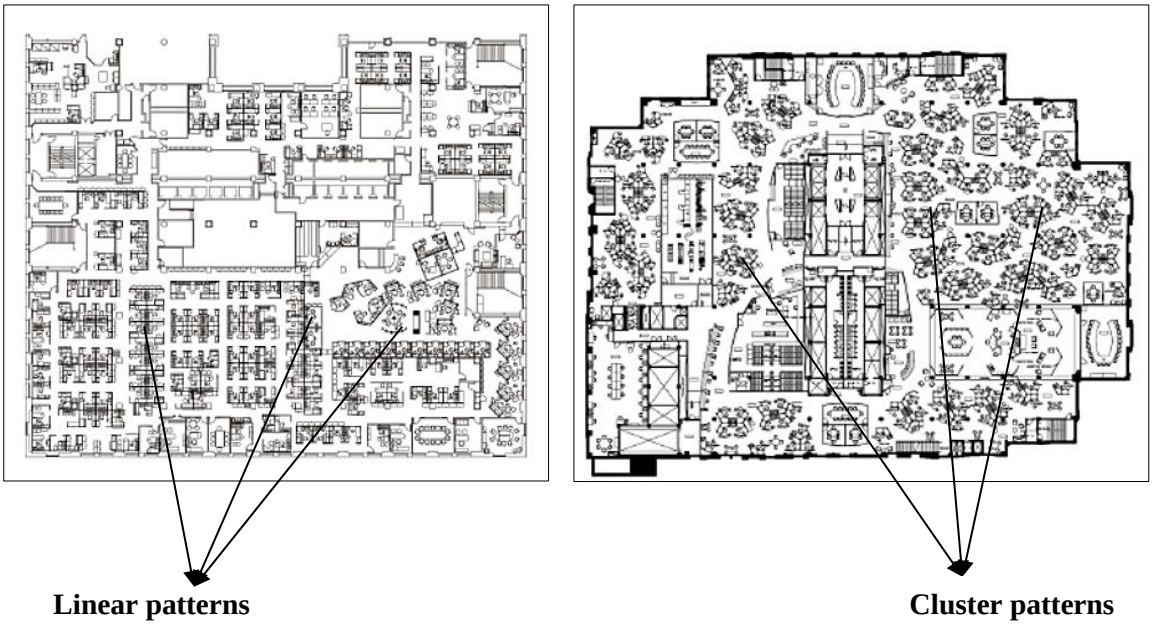


Figure 3.4 Linear and cluster office layout for the old and new office respectively. Source Rashid et al, (2009)

It seems that the cluster design is favourable to social interactions. We can look at another example. Marx et al. (1999) conducted a study on the effects of classroom seating arrangements on the ability for children to ask questions, the study showed that children asked more questions when sitting in semicircle than in a row-column pattern. In the semi-circle design, it was said that pupils might have felt obliged to show interest by asking questions because with such a layout, there was a high possibility for 'unobstructed eye contact' hence giving a strong perception of presence of the teacher who is the interaction target. In essence the teacher was closer, (not strictly in terms of physical distance) in the semi-circular pattern, than in the row-column pattern. Unlike the other indoor studies, the ability for the pupils to control their environment seems missing in this instance. It does not seem like there was an opportunity for students to be in control of the space. Most importantly, the fact that the dynamics in the demographic group and the nature of the activity they will undertake is different is acknowledged. See figure 3.5 below. The T-shaped and the triangular shaped action zones was used to test the number of pupils that fall within the 'unobstructed eye contact' zone of the teacher.

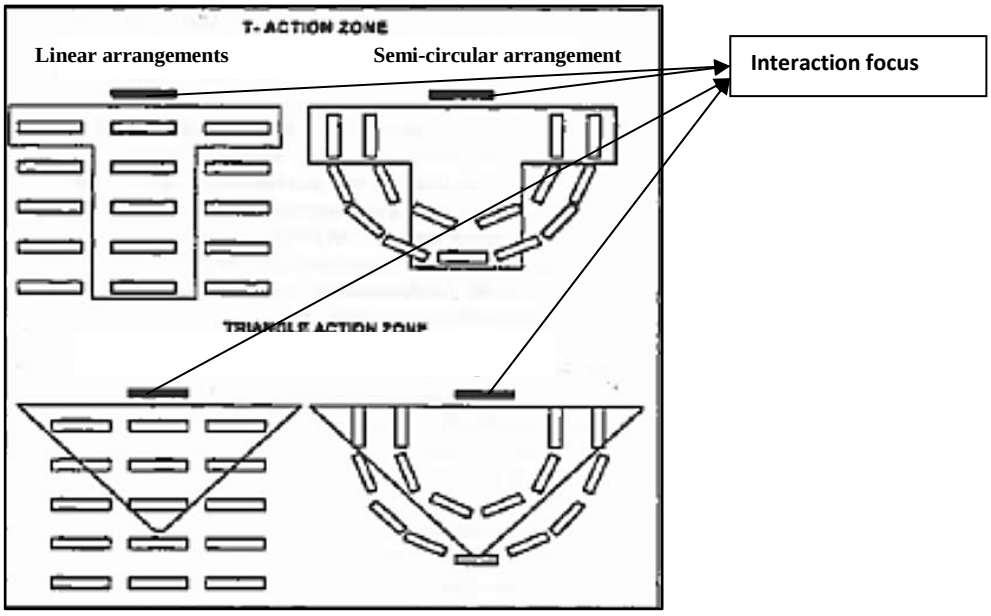


Figure 3.5 Showing the effects of linear and semi-circular patterns on teacher pupil interactions
Source: Marx et al, (1999)

The semi-circular arrangement allows students to be close to the interaction focus. This is the case for both the T action zone and the triangular zone. The linear arrangements do the opposite. Most students fall out of the interaction zone. This is the case for both the T action zone and the triangular zone

These studies suggest that the clustered layout encourages higher levels of interaction among neighbours because it affords proximity. Further to that, the clustered design provided opportunities for control and this ability to control one's interactions through design was important. So a model that works for social interactions within indoor environments appears to be *a clustered layout providing proximity and control through design for privacy.* Is this model applicable to outdoor residential environments? The next section will examine some studies on social interaction within outdoor residential environments.

3.3.2 Outdoor environments - layouts

The issue of spatial scale

This section explores social interaction within the outdoor residential environment, but a question to answer first is at what scale can one effectively examine social interactions? Chapter 1 mentions the spatial hierarchical scale of interest for this research, which is the areas around the dwelling, but this section will add to it. Research suggests that the home-patch which is made up of streets, blocks and spaces is an appropriate scale for this (Barton et al., 2003; Leyden, 2003; Canter, 2008; Yang, 2008; Bramley et al., 2009; Barton et al., 2010, Rogers et al., 2010 ; Hipp, 2010; Landcome, 2011; Kytta, 2011). At this scale rich data on space use experiences can be easily captured and also a stronger effect of behaviour influenced by the built environment is reported at this scale (Barton et al., 2003; Barton et al., 2010; Rogers et al., 2010; Hipp, 2010).

Bramley et al., (2009), Grant et al., (2010) and Burton (2010) state that at the street and blocks level, there is evidence for significant health impacts to be associated with the built form. Yang (2008) also emphasises that different spatial scales meet different social needs within the residential environment. For example it is assumed that at a neighbourhood level it will be the ease of movement and access to services and

facilities. At the residential block level, i.e. the home-patch, neighbouring interaction and connections will be sought and related to satisfaction. It is necessary to point out that there are differences between the home-patch and the residential neighbourhood.

According to Barton and Grant (2003) the neighbourhood is an area distinguished by name and recognised by a boundary and normally has a population of 2,000-10,000, and the home-patch is made up of individual streets and building blocks often of a same identity and squares/spaces. The home-patch usually has a population of 20-200. The concept of neighbourhood is often confused with community, however there are differences between the two. Kearns (2011) simply explains that a neighbourhood has a spatial connotation attached to it, whereas a community does not 'always' have that. Communities are not always geographically defined. A community is generated depending on the strength of the tie and can be within an area such as in a neighbourhood or home-patch or based on interests, beliefs and other things and will not necessarily be a geographic community. A community has therefore been defined as 'a grouping of people with common interests' (Cowan, 2005 p77) but the Urban Task Force (1999) add that it is not just common or shared interests but also about 'knowing individual neighbours. The latter definition for example takes geography into consideration.

Neighbourhood is said to be a problematic concept that has no agreed definition. Often wards and/or postcodes are used to identify areas as neighbourhoods, particularly in primary research. In other respects, indicators are used to identify and define neighbourhoods. Bryman (2004) explains that indicators may be established by the researcher, who has 'limited and representative information'. Therefore indicators can be subjective pointers based on information available to the researcher. This therefore makes the task of defining a neighbourhood complex (Galster 2001; Johnson, 2002; Jenks and Dempsey, 2007; Dempsey, 2008 and 2009). It is likely that it will be equally difficult to study social interactions within the neighbourhood due to the complex nature of identifying or defining it.

In this research the focus is on the home-patch for the reasons mentioned in the previous paragraphs. Apart from it being an effective spatial level to study social interactions, the home-patch is useful for urban design interventions (Barton and Grant, 2003). Studying the home-patch is also not straightforward. The likelihood for the home-patch to spill

into a wider neighbourhood boundary can be high. Yancey (1972) adds that identifying a neat boundary to work with where investigating of social life is concerned is complex. The dwelling should not be the main thing observed but rather the housing or residential environment should be the focus (Campbell et al, (1976) cited by Gruber and Shelton (1989)). This covers many spaces around the home which will become clear as some studies are examined.

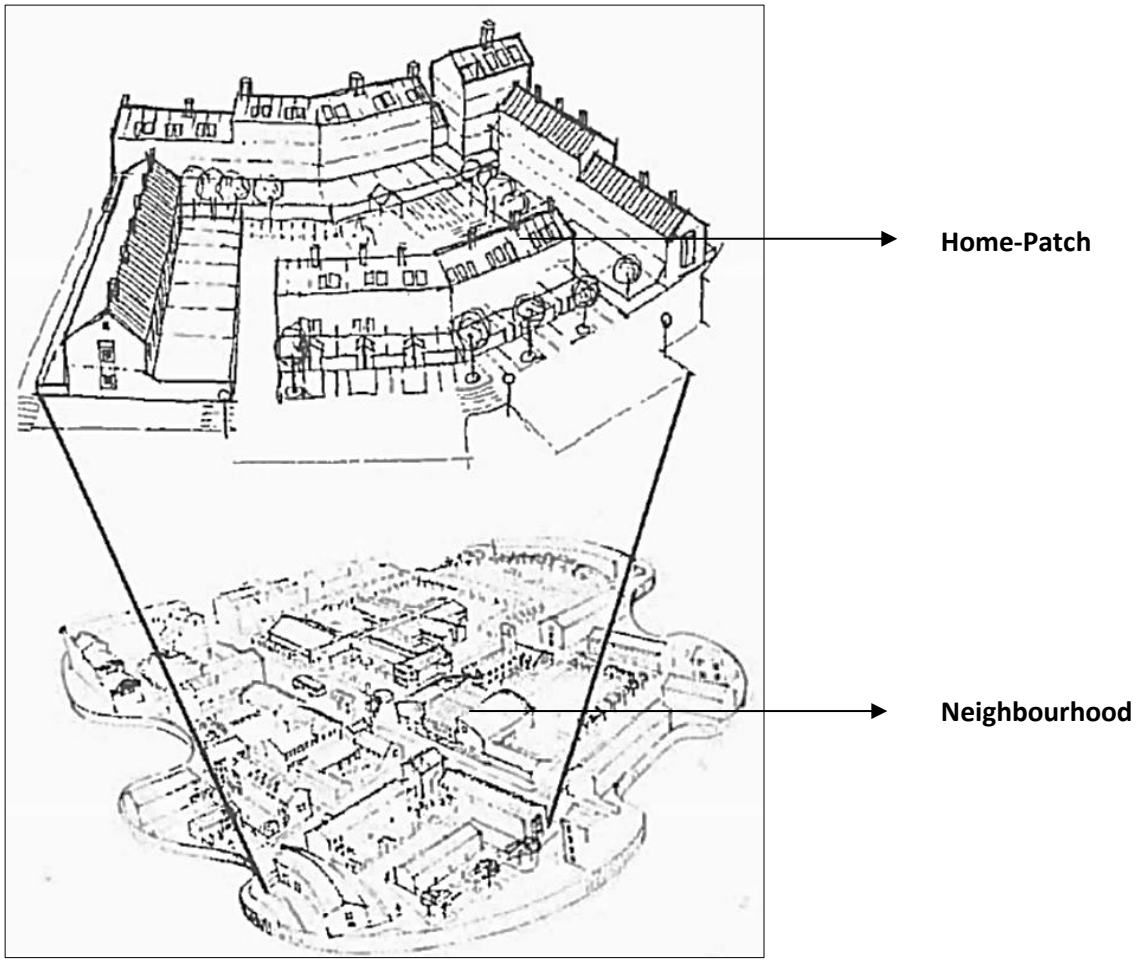


Figure 3.6 The difference between the neighbourhood and the home-patch Source: Barton et al, 2003

The next section will examine some residential environments (with a focus on the home-patch) and how they afford interactions among residents. The criteria used to select the studies examined in this section are listed below as:

- Social interaction at the scale of the home-patch, therefore the focus will be on dwelling arrangement including associated features such as gardens, stairs, communal areas and streets including features like the pavement, and
- Research studies conducted in the UK, the US, Australia and mainland Europe

Based on the above criteria, very little research was found on the dwelling and its surrounding space and how this affects social interaction. Section 1.2 discusses this research need. Perhaps the most relevant study is Williams (2005) co-housing [not the conventional dwelling types] study conducted in England. The studies have been conducted on dwellings i.e. blocks and spaces which often included of course sections of the street. The discussions below have been structured using the main themes of the different studies.

Layout of dwellings or blocks and spaces and social interaction

We saw from previous discussions (on internal environments) how different arrangements which are products of layout affect social interaction. The same applies to external environments. The spatial arrangement and configuration of streets, blocks and buildings produce a variety of residential built form home-patch layouts. These layouts play an important role in influencing and facilitating movement, accessing and using built form space and therefore for social interaction (Barton et al., 2010 and Grant et al., 2010). Studies discussing different pattern types and their influence on social interaction once again are minimal. The focus has been on scalability and density in general; however there are some important points identified regarding how shapes influence sociability. At this point it will be useful to look at a number of layout types and their effect on sociability. This will be looked at before looking at some real examples through research studies.

With regard to *layouts of enclosure,* which are also known as protected spaces, buildings are wrapped around the community heart and as such encourage social intimacy and sense of security because of the eyes on the court scenario and a creation of a public realm. These are known to be good for social interactions among other benefits. Examples of such enclosed layouts are the cul-de-sac, either leaking (i.e. permeable) or non-leaking (i.e. dead-end-street) and the courtyard patterns, (Smith,

1977a; Cozens and Hillier, 2008; Barton, et al, 2010). The permeable cul-de-sac is closed to cars but open to pedestrians. Dead end culs-de-sac unsurprisingly disrupt the necessary flow of movement for sociability (Porta and Renne, 2005) whilst of course, walkability, a catalyst for social interactions, is better within a leaking cul-de-sac pattern (Cozens and Hillier, 2008). Willmot (1963) adds that smaller cul-de-sacs, also called banjos, are better because the layout and design allows people to know and interact with each other on a more intimate level. Below are diagrams showing different types of enclosed layouts designs.

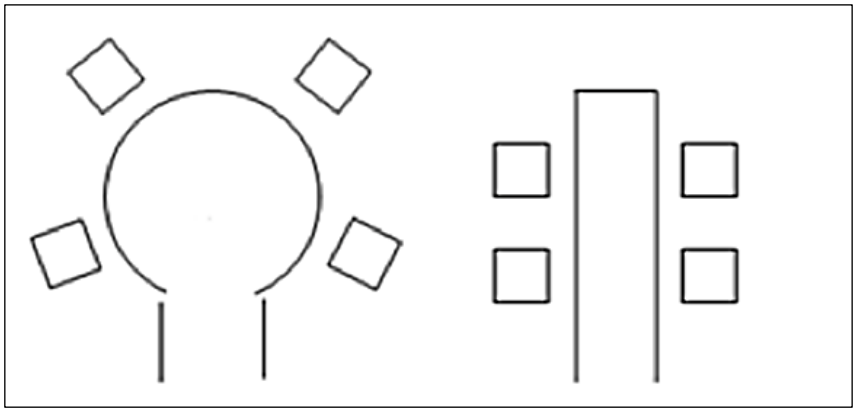


Figure 3.7 Enclosed and courtyard layout design, Source: Citylab

The *radial layout* is another type known to influence social interactions in a unique way. The radial pattern, also called axial, can be visually described as concentric, i.e. sharing the same centre space. In other cases it is known as centripetal or considered as movement directed towards a centre. It is usually characterised with public uses, because of the presence of a common central space to use for a wide range of public activities (Barton et al., 2010). Smith (1977a) adds that when thinking of places that have a social feature, centripetal spaces and places are usually the standard. Thiel (1961) explains that, at the transactional zone of 200 to 450 feet (60 to 137m), people can be recognised by others. Therefore for most cities or places this is the most generous civic space to conduct social activities which encourages social interactions. A local zone of up to 200 feet (60 metres) is an appropriate scale for effective analysis on human behaviour for social interaction is to be considered.

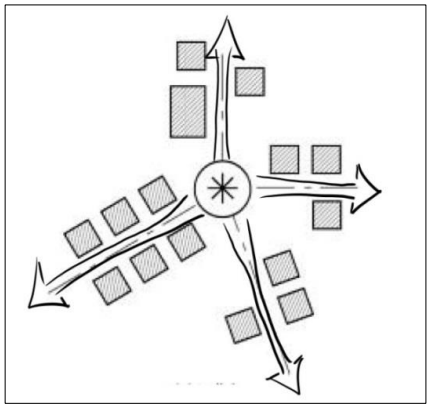


Figure 3.8 Radial layout, Source: studyblue.com

These patterns or layouts highlight the issue of space arrangements as important to social interactions. Both patterns contain an area independent of dwellings but in close proximity, allowing people the opportunity to use these spaces for a variety of social activities which encourage social interactions as well. Whilst the above examples of patterns might be abstract, we can look at some real study examples below. These might not necessarily follow specific layouts as described above, but then they describe how a combination of dwellings and spaces in any form of arrangement has an effect on social interactions.

With regards to the combination of blocks and spaces including aspects of streets, and social interactions, Williams (2005) looks at two differently designed co-housing communities. The co-housing concept refers to where private dwellings are congregated together to give the advantage of communal living. Therefore some form of layout of enclosure but can take the shape of a cluster or a linear pattern. Community A has a density of 80 units per hectare and the units are in a row/linear layout. It also has less green space, perhaps because of the high density of dwellings. The private spaces of the units join directly into communal areas (see figure 3.9 below). Community B has a density of 19.2 units per hectare and is a cluster layout. It also has more greenery and verandas that separate private spaces from communal areas (see figure 3.10 below). Williams (2005) uses activity diaries as a method to gather information from residents within the two communities, about where they socially interact with their neighbours, and how long for. The outcome of the study was that residents in community B engaged in more organised social activities within their indoor (verandas) communal spaces. ‘Organised activities’ here mean parties, social gatherings, and barbeques. Fewer

unplanned activities such as gardening, children playing happened among residents within the outdoor spaces in community B. This goes to show that residents in community B spent more time actually planning for events than engaging in unplanned social activities, showing signs of cohesive living. In terms of time, community B, residents spent an average of 26 hours for social interactions in a month whilst community A spent 17 hours. Community A however spent more times in meetings to solve issues than community B. In a nutshell community A spent less time interacting with each other as well as engaging in organised social activities than community B. An important point to note with this study is the fact that the community A had fewer spaces (no verandas see figure 3.9) to engage in organised social activities, than community B did and this was a major factor which influenced social interactions. The community B veranda which is a semi-private space allowed for a transition from the private dwelling into the communal space, hence giving residents some the choice on how to use this space for social activities. In terms of a pattern, the cluster design favoured social interaction over the linear/row design as found in the internal design types, but the again the cohousing concept mimics internal space arrangements types, where private dwellings are contained within a boundary. Also control over space in the form of an available transitional semi-private space into the public space in community B *meant people had the extra space (spaciousness)* and therefore the choice to use it for what they saw fit, including for organised social gatherings.

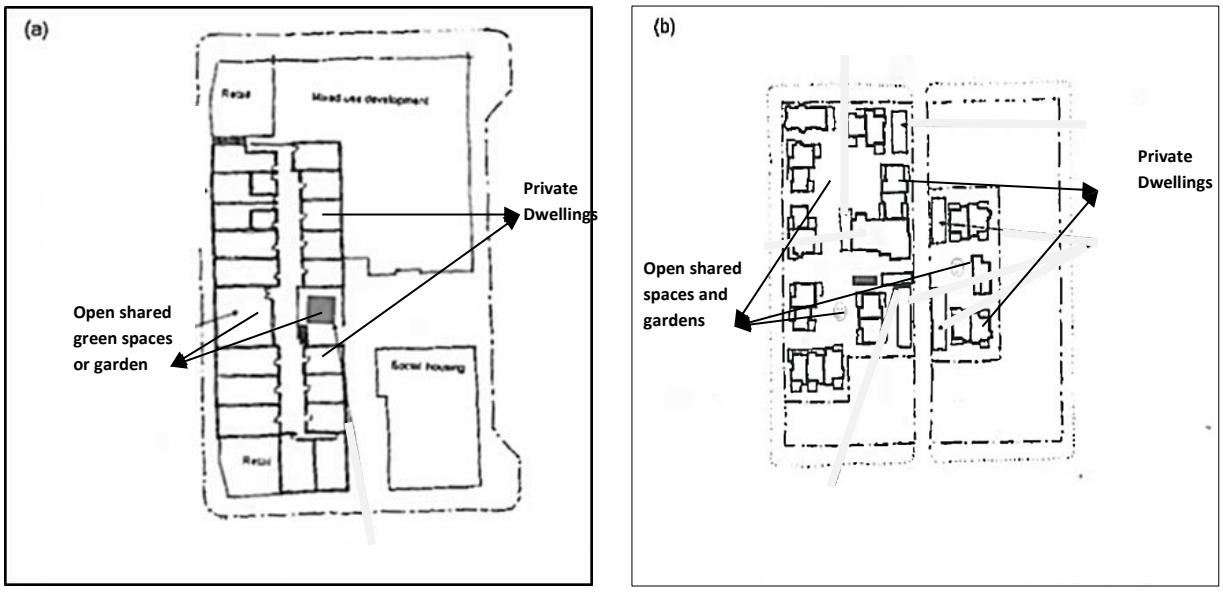


Figure 3.9 Linear design pattern of community A and the clustered design pattern of community B. Source: Williams (2005)

The key conclusion is, the cluster layout i.e. community B favoured social interactions more than community A which is a linear. This is because, the cluster design afforded more space which residents used for social purposes as they saw fit. This highlights the importance of space.

The issue of spaciousness affording social interactions, can be seen more examples below. Skjaeveland & Garling (1997) conducted a study in Bergen, Norway on the effects of interactional space on neighbouring. They looked at public and social housing covering 85 units, both detached houses and flats of 4-12 storeys high. Though housing was provided for social purposes, the areas where the housing was located at were not deprived areas. Self-reports about the physical environment and neighbouring was gathered from residents (n=1056). The research found that the factors that influenced interactions among neighbours were spaciousness and entrance level[5]. Spaciousness and entrance level afforded durable stay areas which encouraged passive contacts to develop into something further. The entrance level is mainly the spaces located in entrances and egresses of the houses and flats. The design and layout of these spaces either encouraged or discouraged people from staying there. A study by Gehl (1986) found something similar and this has been discussed below.

The findings by Skjaeveland & Garling (1997) are similar to Appleyard and Lintel's (1972) study outcome that having a wider perception of territory was enough to encourage higher levels of social interactions. Spaciousness is not a guarantee to social interactions however, as we see from a study on home grounds and social interactions. Lipman and Russel-Lacy (1974) examined social behaviour which was measured as the frequency of interactions and territorial perceptions described as home grounds of residents within four areas in South Wales. These residential areas consisted of the different dwellings types examined. See figure 3.10. These areas were defined by virtue of the degree of pedestrian traffic around the immediate home surroundings and also the 'general status' given to the environment. Apart from collecting narrative information from participants about social interaction around their home environment, Lipman and Russel-Lacy (1974) used maps to extract space use and 'home ground area' information from participants (n=160). The outcome of the study was that though participants did not perceive themselves to have an 'extensive territory' (home ground) area, they reported high level of interactions with their neighbours.

[5] Foot note - the transition between private and public so again the availability of a semi-private space

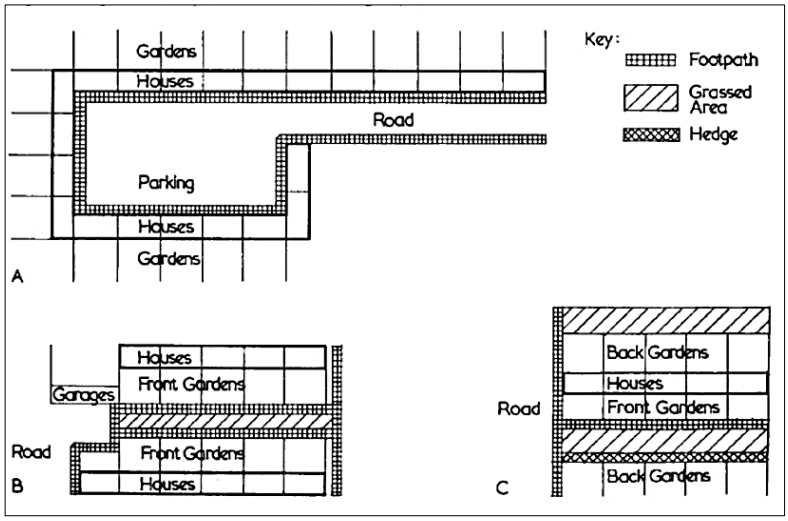


Figure 3.10 Diagrammatic representation of the different housing types examined in the study. Source: Lipman and Russel-Lacy (1974)

It should be noted that the methods used for the study investigations differ. Williams (2005) used a diary method, Skjaeveland & Garling (1997) used self-report surveys, whilst Lipman and Russel-Lacy (1974) carried out a survey with socio-spatial schemata. However they all highlight how space is important for social interactions.

We have seen how spaciousness encourages social interactions, but the ability for the space to 'keep' people within it was essential to making the space socially friendly. Identifying features that appear to promote long stays within the residential environment is useful to urban design interventions for successful sociable places. Research carried out by Whyte (1980) revealed patterns of use where shady areas or enclosed but safe spaces were well patronised by people. Also Gehl (1986, 1987) states that the amount of time one stays at a place and the number of people who stay within a place is the most important factor to measuring the liveliness of the space.

Gehl (1986) observed 30 different light trafficked residential areas containing low density, low rise flats in Australia, Scandinavia and Canada. He focused on front yards, forecourts and porches and how they provide opportunities for people to stay for long periods. The study found that front yards were places people spent the most time, followed by streets. When front yards were too narrow, people did not stay in them. Once again the issue of space is emphasized. Following on from there Gehl notes that a

lack of soft edges prevented any form of long stays. The soft edges are buffer transitional zones between the streets and the buildings in the residential areas. This outcome reflects that of Wilkerson et al. (2012). They studied 8 neighbourhoods (128 residents) in Portland. The research used regression models to test the association between physical features such as sidewalks, front porches, devices, bars on windows and neighbourliness [6]. The outcome of the research was that higher levels of neighbourliness were associated with positive physical-environmental features. So, front porches and sidewalks which Gehl (1986) describes as soft edges were positively associated with neighbouring even though the relationship was statistically weak.

Yancey (1972) advises that the dwelling alone cannot be examined in relation to social interactions within the neighbourhoods. This is because the outdoor space of the dwelling is associated with other elements like spaces and street. Ortega-Andeane et al. (2005) and Jenks et al. (2010) add that the influence of the built form character on social urban living and willingness to use spaces around the dwelling for social interactions does pertain to other factors such as building type, height, age, architectural properties, façade and spaces around it (the dwelling (blocks), spaces and also sections of streets). Normally a combination of these elements provides a layout, but from the discussions had so far, layout might not be the most pressing factor to encourage social interactions within the home-patch, but rather the following; *spaciousness and soft edges i.e. a gentle transition provided between spaces*. The section below will look mainly at the residential street itself (i.e. the transport infrastructure) and how this influences social interactions.

Streets

Streets in the home-patch are also known to influence how people interact. They support social interactions as part of a daily routine (Metha, 2009). A typical example of such an observation is the well-known study by Appleyard and Lintell (1972), in California and San Francisco. They examined three different residential streets where the differences were based on traffic levels only. The first being a heavy trafficked street with traffic speed at over 45 miles per hour, the second a moderate trafficked

[6] Neighbourliness was described as, the behaviour of interactions that take place between people who live very near to each other (Wilkerson et al., 2012).

street and the third a lightly trafficked street. The housing on all the three streets was terraced housing and apartment blocks ranging from Victorian style to modern style architecture. Appleyard and Lintel (1972) carried out detailed interviews and gathered information on a number of social life factors, including social interactions. Social interaction was measured as 'the degree to which residents had friends and acquaintances on the block and the degree to which the street was a community' (Appleyard and Lintel 1972, p 86).

The outcome of the study was that of course, participants living on the lightly trafficked street had more interactions with their neighbours because the traffic level was low and as a result they had a higher sense of territoriality than the participants in the other two streets. Participants living on the lightly trafficked street had three times as many friends than those on the heavily trafficked street. In this case one might argue that the design of the street was not the factor but rather the level of traffic as in this study all the three streets had the same layout and built form types. Yet still it can also be said that a street could be designed to accommodate less traffic which can be a consideration for residential streets.

Porta and Rene (2005) advise that for residential streets to be convivial, factors such as the social width, sky exposure, visual complexity and the number of buildings on the streets should be considered. Social width describes the breadth and width of the street when taking into consideration people use and movement. So in effect, how far apart social activities are, based on the physical width of the street? This social width relates to sky exposure i.e. how much of the sky is exposed in a street view in that, narrower streets do not have a wide sky exposure and vice versa. Considering these factors does not mean prescribing specific widths for street as the standard to encourage social interactions. The Scottish Government (2010) advise that though these are to be considered, what is important is the 'consideration given to the relationship between scale and the nature of the space created' (p 24). For example in the UK, the width of residential streets, that is frontage, to frontage can range between 10 metres to 18 metres (see figure 3.12 below, however some widths can be smaller and be convenient for social life (Scottish Government, 2010). In terms of sky exposure, the need to create a balance between the width of the street and the height of buildings to avoid an oppressive feel is important.

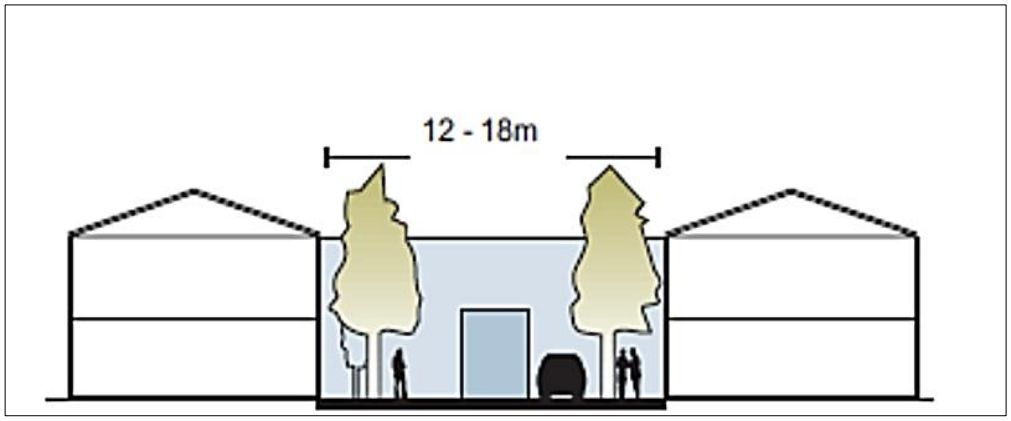


Figure 3.11 Standard known residential street width. Source: Scottish Government, 2010

Visual complexity, which is another factor Porta and Rene (2005) advice as useful for residential streets, refers to variety on the street, in terms of different housing facades. This has an interesting way of making a space stimulating to use. GLC (1978) explains that people are more inclined to using a space including the street space, when it is interesting; meaning, pleasant, inspiring and anything that excites curiosity. See figure 3.13 below. The exact elements that should be considered on the street to enhance complexity cannot be prescribed. GLC (1978) advise that residential streets should contain things like screens, space dividers, which in all create comfort, enjoyment, opportunities for privacy and social interactions.

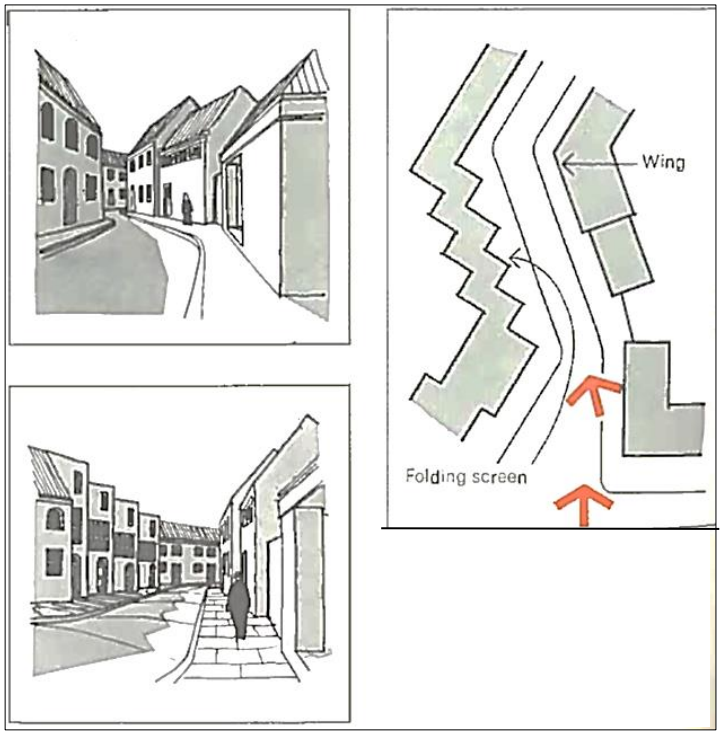


Figure 3.12 A folding street providing variety and interest to the eye. Source: GLC (1978) p 122

The number of building on the street, which simply refers to numbers, is another factor Porta and Rene (2005) advice as good for conviviality. They explain that this helps with surveillance as the higher the number of buildings the higher the surveillance. It is believed however that some balance is required for this 'eyes on the street' concept to work as a convivial factor especially when considering privacy, just as advised by GLC (1978) regarding visual complexity. We can learn from Brown et al (2008) that too much surveillance is a source of stress instead (refer to discussions in section 3.4 under privacy).

The residential street should be the place for the pedestrian first before other uses (Scottish Government, 2010). Leyden (2003) argues that social activities and interactions are likely to be high in pedestrian oriented communities. Walking is essential for social interactions, therefore designs which encourage walking are always useful to create a sociable environment (Gehl, 1978). Walking is the only form of travel and movement which permits face to face interactions to take place. Linear layout has an 'en-route' character and encourages linear movement such as walking. Examples of linear layouts are, promenades, parades, boulevards, walk ways and streets. They

provide the experience of walking beyond what other places and spaces will have (Smith, 1977). This makes the street a space to encourage the experience of walking therefore the residential street should be used to full potential. The linear nature of the street is an advantage, however the width and pedestrianisation of the street is more important to social interactions. The linear layout is not always advantageous to sociability when taking Williams's (2005) study into consideration. This is because it provided no opportunity to personalise space as did the cluster design. It may be argued that the linear space has a thoroughfare nature.

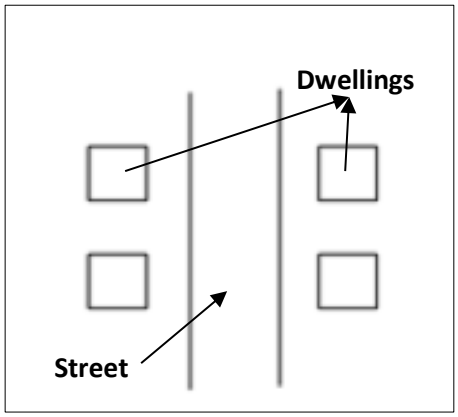


Figure 3.13 Showing a linear layout. Source: citylab

The evidence for streets so far shows that light trafficked streets are conducive for social interactions. In addition to that an 'exciting' street helps. *Light trafficked streets and an 'exciting' street, therefore pedestrianized residential streets.* Other factors may be considered like the width of the street, however there are no prescriptions as to what works or what does not.

The research examined in the previous sections explained how layout made up of buildings and streets of the residential environment influences people's movement and their willingness to interact with their neighbours. We learn that spaciousness, soft edges and pedestrianized streets are important to social interaction.

Spaciousness is about the generosity of the space. How much space is available and appropriate for people to use, move freely and interact willingly within it? The important thing is not just the length and breadth of the space but the appropriateness of

the space influences its affordance for social interaction. See chapter 9 for discussions on 'appropriateness'.

A soft edge is about space which separates two main space types. For example space located between a private dwelling which is a private space and the street which is a public space. The soft edge therefore serves as a buffer between these types of spaces and provides a 'gentle' transition from one space type into another. The term gentle is used to describe the experience of walking from a private space like the private dwelling into a public space like the street where the transition allowed the contrast in space type not to impact on the experience of moving from one space to another. We learn from Gehl (1987) that such buffer spaces always encourage social interaction and other sociable uses. Pedestrianized streets are people friendly and encourage walking, which in turn increases people presence on a street. High people presence on a street is good for social interaction.

Section 3.2 explains the need for an appropriate space and proximity to promote social interaction. The previous sections have explained how spaciousness, soft edges and pedestrainisation are factors that promote social interaction. These three provide an appropriate space for interactions and also encourage propinquity among the people that use it. When the spaces possess all these three factors and are favourable for social interaction, they influence people's perception and therefore the affordance of social interaction given to the space. Perception of the space also plays a part in encouraging social interactions among neighbours. The section below will discuss the issue of perception.

3.4 Other factors that affect social interaction

Built form elements affect social interaction, but Burton (2010) states that sometimes other factors affect social interactions. Gehl (1987) states that, '*there is, however no basis for concluding directly … that contact and close terms between neighbours develop more or less automatically, solely on the basis of certain definite building forms. More than architecture is needed for these interactions to develop..'* p 55.

Skjaeveland and Garling (1997) state that perception[7] is influential in determining, how people use space for social interactions. If a space is perceived as interactional[8], then it means that the users of the space must perceive that the space 'possess certain qualities that permit' interaction. The perception (the perceived properties of the space) is affordance as discussed in section 3.3. Therefore how the space/place is understood is what will drive use and this in turn affects interactions. Some perceptions which have been found to affect social interactions among neighbours are privacy, safety and the image given of a place (including an aesthetically pleasing and high quality environment). These are discussed below.

Perception of privacy

Section 3.31 explains how privacy is an important element which gave people control on how they interacted with other people. A study conducted in the USA, Little East Havana by Brown et al. (2008) showed that certain architectural features facilitated social contact for elderly citizens in certain dwelling types. Pre-1945 buildings (pre-war II) and buildings post 1945 (post war II) were examined. The study demonstrates that pre-war architectural features such as above grade stoops, porches and ample window area, low sill height and ground floor parking, facilitated more visual and social contact than the post war buildings (Brown et al., 2008). These features at the front of the house (Pre-1945 buildings) though associated with higher levels of social support, subsequently led to psychological distress. This is because of negative social support which occurred due to people prying into elders' affairs. Simply put the owners of these pre-war houses could not control their privacy. However the elders reporting this higher level of (negative) social support also demonstrated lower levels of depressive symptoms and anxiety. This perhaps shows that negative or unwanted social contact might still be important for mental wellbeing. The issue here is finding the right balance in creating built environment features that promote social interaction but again provide privacy for tenants. Where private spaces can be encroached on it establishes a limitation to the type of social interaction which is good for positive mental health (Brown et al., 2008).

[7] The way in which something is regarded, understood, or interpreted (Oxford Dictionaries).
[8] I.e. has the functional properties of a physical entity in the environment that allows for or enables certain activities to happen within it.

There is a behavioural inclination to protect a private space therefore 'shutting out' potential sources of interaction. Private and public spaces should therefore be clearly distinguished and should be made to have separate functions (Barton et al., 2010). This was recognised in earlier discussions as providing soft edges to dwellings. As in the case with Williams (2005), community B reported more social interactions because they had semi-private spaces (verandas) separating their private dwelling spaces from the shared public spaces. It is plausible to say that this space provided a degree of privacy to dwellers. Lindsay (2010) points out that clearly marked boundary (outdoor space) between properties are good for the sort of privacy that encourages social interactions between neighbours.

Perception of safety

It is not surprising that feelings of safety are important to social interactions among neighbours. Feeling safe in one's environment always has huge implications for social life. We learn from Newman (1972) and Yancey (1972) that concerns about safety can create some unusual space use patterns. The housing projects studied by Newman (1972) and Yancey (1972) may be referred to as high rise flat development housed low income groups. To explain the unusual space use pattern the following example is given. In their study there were instances where residents kept their children very close to the dwelling environment so that an eye can be kept on them, therefore creating clusters of people using different spaces branded as safe referred to as atomization[9] was observed (Yancey, 1972). As a result of such incidents such as atomization these low income groups exhibited very high levels of social interaction in certain spaces (Herberle, 1960; Gans, 1961; Blum, 1964; Atkinson and Kintrea, 2001). What this means is, in one way perceiving a place to be unsafe can lead to innovations of space use, i.e. finding spots within the area that can be used well for sociability. This though might not always be the case or be ideal.

[9] This is about clustering around specific spaces within the residential environment because these areas are considered safe to use by residents.

Perception of image/aesthetically pleasing environment

Giles-Corti and Donovan (2002) show that an attractive environment encourages walking which affects chance encounters. Similarly Lipman and Russel-Lacy (1974) found that when people perceived to have an environment with a high quality, they engaged in more social interactions within the locality, i.e. within the home-patch area. Yet again, Wilkerson et al. (2012) found that graffiti and litter were negatively associated with neighbouring (refer to section 3.1 for definition of neighbouring). Skjaeveland and Garling (1997) also found that a high quality environment is an important factor to making spaces interactional. They stress however that the flats examined are not in deprived areas, though occupied by residents on low-incomes and employment rate. It is often the case that deprived areas are associated with poor quality environments when compared to non-deprived areas. This is also to do with place image. Newman (1972) addresses this issue of image by explaining that when some built form types stand out in a negative sense it affects the image given to it and the place/area within which it stands. It is not always the case though that places regarded as having a low quality environment, be it containing high rise flats or just not being nice, discourage social interactions among neighbours. Actually the issue of image might create a need to interact with each other. Atkinson and Kintrea (2001) found that deprived neighbourhoods made more locally based friends than non-deprived neighbourhoods. This point however is supported by Dempsey (2009). Dempsey states that high quality neighbourhoods in terms of environmental sustainability do not necessarily produce cohesion as it dependents on a number of 'subjective' factors. One of these factors may be homogeneity.

Homogeneity as another factor

There are factors, interests, ideologies and issues that residents have in common that pull them together to engage in communal activities and interactions. Examples of factors could be parenting, political interests, and social reform ideologies. In other words, people are known to prefer to associate with people similar to them (Kuper, 1953; Newcomb, 1961; Berkman, 2000). This might be referred to as homogeneity. Homogeneity is considered as being similar or alike (English Oxford dictionary, undated; Caplow and Forman, 1950) . Being similar could mean a lot of things and this

may be dependent on the individual's or societal judgement. For example society might regard the similarity in race, beliefs, social status/class including issues like tenure life style and life stage. An individual's judgment of similarity might not necessarily mean being the same, but it may be that of a connection even when there might be a hierarchical division in social class. Putnam (2001) puts these as horizontal relationships where people interact with and have trust for people of the same kind, for example neighbours trusting neighbours. Status might or might not play a role in this. Then again people who do not consider themselves as alike, might interact with others or meet and do things with other people because something compels them to do so.

Homogeneity or likeness could also be a way of considering each other to have a common problem. Within the built environment, unfavourable conditions are also factors that in some instances 'force' residents to interact with each other within the built environment. This on its own is an issue that could affect social interactions, however viewed in the perspective of resident having a common problem this can be a form of homogeneity. As Gehl (1987) succinctly puts it, *'The common problems are of considerably greater importance to the process than in the physical framework'* p 56. For example, poor housing conditions could result in a group of people interacting with each other with an interest for betterment to fight their cause for better development with the built environment. In another vein, a community of interest could be developed where the interest is based on a social factor created by a design issue. An example is stigmatization which occurs as a result of image of a high rise flat issue (Newman, 1972 and Yancey, 1972).

Homogeneity is recognised as one of the most important influences on planned and unplanned encounters in the built environment (Halpern, 1995). Abu-Ghazzeh (1999) in his study of social interaction in different spaces in Jordan, explains how mothers often used the courtyards of certain designs at the same time, because of child care duties, hence giving them the chance to interact with each other. Frumkin et al. (2004) also explain how some post-war decade's residential suburbs reported high levels of personal happiness and participation in social activity. The reports of sociability could be due to the fact that 'socially compatible people' might want to live in the same neighbourhood/community. Even though in the instance of the study, the distance one would have to travel to look for social contacts might be a deterrent and people will rather socialise with those nearby.

Spatial planning does not encourage homogenous environments, but rather mixed societies. This is because homogenous environments create social segregation because people living in such communities often have a need or want to preserve the community that exists among residents based on their similarities and connections (Halpern, 1995). Therefore high levels of social capital may be generated in such communities. Clarke and McCann, 2003 identified that such high levels of social capital are likely to generate negative social action against surrounding areas because of the intent of increasing personal efficacy, autonomy and empowerment. The authors further explain that high levels of social capital within the neighbourhood could foster or inhibit tolerance of difference and diversity. According to the literature, conservatism and lack of tolerance is higher and is likely to be strong in communities with a spatial attachment, i.e. with defined boundaries which influence low tolerance of diversity from the community. The prominence or importance given to conforming to social norms is likely to lead to coercion and segregation of other group mostly the vulnerable (Coleman, 1988 cited by Clark and McCann, 2003; Putnap, 1993; Cox 1995; Hall, 1999; Frumkin et al., 2004). Adding to this, a study by anthropologist M.P Baumgartner revealed that after a year of interviewing residents in an 'amiable harmonious looking' affluent suburbs in New York commonly characterised as tolerant and consensual, there were issues of persistent confusion, indifference, weak family and communities (Frumkin et al, 2004). Therefore it can be argued that if people are sufficiently incompatible, not much can be done to ensure a 'harmonious' mixed community.

3.4.1 The gap examined?

So far, the discussions above have revealed that no particular dwelling type or surroundings or layout is best for social interaction. A clustered layout was highlighted as good for social interaction, but this applies to a co-housing concept only. Considering that the home-patch always includes dwellings and spaces, squares and streets, it is also useful to know the combination of design factors that will encourage social interactions. The closest to explaining perhaps what dwelling and layout type might be best for social interactions is discussions on density.

Density is either a spatial-based measure i.e. number of people in a defined measure of space or social interpretation i.e. perceived density, overcrowding (Barton et al (2003, 2007) Jenks et al., 2010). Density is also said to be the relationships between number of dwellings and the area of land they occupy (Cowan, 2005). Of all the elements of urban form, density has received the most attention in terms of how it influences social life (Bramley et al, 2009; Jenks et al, 2010). Discussions are normally centred on low and high density effect on social life. For example, a study of social interaction within five British cites including Edinburgh found that interactions fell as density rose (Jenks et al, 2010). So possibly, there were fewer encouraging interactions happening in higher density settings. When urban form effects were considered, (i.e. taking urban streets, layout and design into consideration) the story was different. Interaction rose as density rose, however interaction still fell at net density of 120 dwellings per hectare (dph). Lower densities encourage less spontaneous interaction among people because there is less of an opportunity to have chance meetings (Lynch, 1954; TCRP, 1998 cited by Bramley et al, 2009). However Gehl (1986) and Williams, (2005) found that lower to medium density development facilitated more social interactions.

Referring back to the study by Jenks et al, (2010), the fall in interactions at density 120 dph meant though there was more of a tendency for people to meet because the frequency is higher, again the conditions were not favourable for acceptable interactions. See figure 3.14 and figure 3.15 below.

	Pride attach	*Inter-action*	*Safety*	*Envir-onment*	*Satis Home*	*Stable/ Mobile*	*Partic Groups*
Density							
<20 DPH	116.3	118.4	134.4	120.6	139.0	132.4	105.4
20-40 DPH	112.7	116.4	131.4	121.1	131.3	132.1	106.0
40-70 DPH	109.0	117.3	127.2	113.9	125.7	121.0	97.5
>70 DPH	97.3	111.7	119.1	111.2	123.6	128.1	92.5

Figure 3.14 Table showing social interactions scores given per dwelling type as reported by Jenks et al (2010)

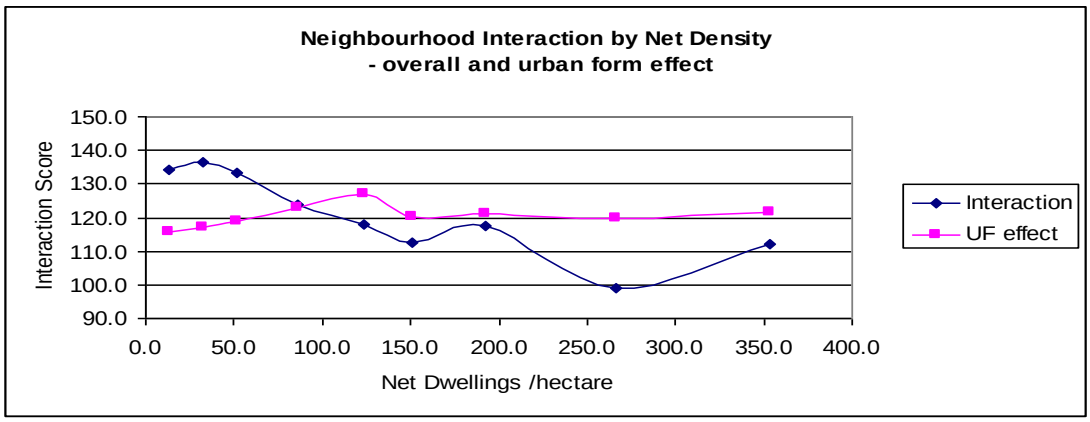


Figure 3.15 Graph table showing social interactions scores given per dwelling type as reported by Jenks et al (2010)

UF effect is taking of urban streets, layout and design into consideration.

High ensity developments have been demonstrated to facilitate meetings but not favourable interactions. The high density can cause overcrowding or excessive social stimulation with regard to the perceived notion of overcrowding caused by built form density or lack of space. Thus it can still be a problem (Desor, 1972). It can also lead to annoyance and an increase in stress due to problems of congestion and therefore the severing of traditional ties resulting in a decline in community (Bramley et al, 2009).

At this point it can be said that the high and the low density are not favourable to social interactions and perhaps the medium is. But even with the medium densities there are ranges, because according to Barton et al. (2003 and 2010) different dwelling types are associated with specific densities, but it is still not known what one is best for favourable social interactions. This is because each built form type and associated features have its benefits and disadvantages (Lynch, 1954). As per the density standards given by Barton et al. (2003, 2007), semi-detached, terrace, 4-in-a-block and tenement types fall within a medium density. This means it is not known which dwelling type influences social interactions the most. This research therefore aims to investigate how positive social interaction arises within different residential built form types.

It’s been understood so far that certain principles are important in encouraging social interaction within the outdoor residential environment, i.e. the home-patch (refer to discussions in section 3.3.2). These are: spaciousness, the provision of a soft edge and a pedestrianized road. Other factors are positive and negative perceptions of spaces

around the home. There encourage or discourage social interaction. These are useful, however what is not known is if these interactions are positive and their effects on the residents, which is an overarching objective if this research.

Most of the research studies discussed here use quantitative methods, therefore they describe *where* interactions happen but not *why* and *how* (Skjaeveland & Garling, 1997; Jenks et al., 2010; Wilkerson et al., 2012). Some pursue qualitative methods, but these do not cover the housing types of interest in this study (Yancey, 1972; Lipman and Rusell-Lacy 1974; Gehl, 1986; Williams, 2005). The question that still needs to be answered is what dwelling type and its surrounding spaces are good for positive social interactions and why do people use these spaces for positive social interaction.

3.5 Concluding discussions

The chapter has looked generally at how the built environment can encourage social interactions. Subsequently, the chapter examined various research studies which look at social interaction within residential environments. Planning must strive to create sociable environments which encourage social interactions. However, there are some fundamental things that need to be done by planning to be successful at creating such environments. This is to understand human nature and how relate to the elements of the built environment. This will lead to creating neighbours that people will generally enjoy interacting within. This is the reason why appropriate methods for investigation should be adopted. The next chapter (Chapter 4), discusses the research strategy adopted to help with its investigations.

Chapter 4 – Methods

4.1 Introduction

This chapter explains the strategy used to carry out the research. It then discusses the various data collection methods employed, the reasons for adopting these methods and processes involved in using the methods to gather data. The chapter then goes on to explain the data analysis process. The final sections include some researcher's personal reflections on conducting the research.

The aim of the research is to examine how different residential built form affects positive social interactions. Therefore understanding the rationale behind the interactions is essential. Understanding the motives requires that scales that examine social interaction as life and not just an incident are adopted (refer to discussions in section 1.2 and 3.4.1). An observation made is that instruments used to measure social interaction are most often one-off tools or scales[10] used to ask participants about their social interaction with neighbours. Examples can be seen in Appendix C. Though these tools try to capture social interaction over a period of time they do not appreciate social interaction as an ongoing action which could be influenced by the conditions of a place. Though the instruments identify where social interaction actually happens, they fail to identify why it happens and how the spaces within which it happens influence social interaction. This study attempts to identify an approach of measuring social interaction which examines motives. To fulfil the research objective, the methodological strategy aims to extract information regarding where and *how* residents interact with each other and most importantly *why*. The next section explains the chosen strategy and the rationale behind the choices made.

4.2 The research strategy

As mentioned above, the aim of the research is to *examine how different residential built form affects positive social interactions* and it was proposed that a qualitative

[10] In the form of questions.

approach should be adopted. The qualitative approach was adopted for a number of reasons.

Qualitative research is characterised as being an approach that uses a range of methods that are interactive and humanistic and is not prefigured hence has an emergent character and is interpretive in nature (Marshal and Rossman, 1999). It has been vital for this research to embrace these characters to shape its outcome as explained in section 4.1. As a result a variety of methods (see section 4.3.2) were used in the research investigation which allowed for a rich array of information to be acquired. Also, the methods adopted provided outcomes which can be further developed in spatial planning research.

The qualitative approach also allows for researcher reflection on the research process and the way his/her 'personal biography' shapes the research. It also allows the researcher to have a holistic view of social occurrences (Marshal and Rossman, 1999). Again this has been important and useful in shaping the outcome of the research as objectively as possible without a huge researcher personal influence on the research outcomes. Understanding how social interaction is influenced by the spaces within which it happens requires an in-depth exploration of the interaction behaviour without attaching perceptions and opinions to it. Apart from using innovative methods to do this investigation, the researcher also has to distance himself or herself from the investigation and one way is the methodology used. Again, to succeed at presenting the research outcomes in an objective manner, an inductive approach was adopted because this involves drawing *'generalizable inferences out of observations'* (Bryman, 2008, p 11). There is however a deductive element adopted and this will be explained in further sections. The qualitative research is associated with the interpretive, anti-positivist research paradigm, and the section below will explain the background of research philosophy and the reason for settling on that of the qualitative approach.

4.2.1 Research philosophy

The ontological, epistemological, human nature and methodological assumptions support the approach to *knowing the truth* in social sciences and also influences the choice of methods used in research (Burrell and Morgan, 1979). *Ontology* questions

what knowledge is; *epistemology* asks how knowledge can be obtained or how we know the truth (Bryman, 2008). *Human nature* looks at the relationship between the human being and their environment, which is central to social science (Burrell and Morgan, 1979). The relationship of the three above influences how knowledge can be obtained in social sciences research to answer questions of reality. Therefore questions such as, is knowledge a hard and tangible fact or is it softer and fluid and subject to human interpretation, arise when these philosophical assumptions are considered. How knowledge is seen therefore determines how it is acquired, i.e. methodology. Where knowledge is considered as hard facts, a more scientific approach which looks for 'relationships and regularities between various elements' is adopted to acquiring it (Burrell and Morgan, 1979). On the other hand, when knowledge is considered as a human experience with subjective interpretations then knowledge is searched for or investigated by means of understanding what is unique and particular to the element/phenomenon rather than of what is general and universal (Burrell and Morgan, 1979).

This research acknowledges the ontological view that knowledge categorised under the nominalist view states that the social world exists to an individual as they have created it and is therefore a cognitive construction. In epistemological terms the anti-positivist view is that knowledge of the social world can only be understood from the perspective of the individual. This is because they have direct involvement with the phenomenon which is the matter of study (Burrell and Morgan, 1979). Knowledge of the truth can only be acquired in a subjective manner rather than any other way. Understanding social interaction requires an anthropological examination of the concept because it is dynamic (refer to discussion in section 4.1 and 3.4.1), hence an anti-positivist approach to investigating interaction seems a better approach. With regards to ways of acquiring information, the ideographic approach holds the belief that to get subjective accounts of social phenomena, one has to get 'inside' situations and be involved to understand, and appreciate, as well as be afforded relevant information (Burrell and Morgan, 1979). The 'getting inside' a phenomenon was seen as the best approach to understanding how social interaction happens within the different patterns of built forms.

The qualitative approach is interested in understanding the nature of a phenomenon (Green and Browne, 2005, Creswell, 2009). As mentioned in section 4.1, the stance taken in this research is that understanding social interaction within the residential built

form requires an understanding of what is unique and peculiar about social interaction and how it happens within the built environment (section 1.2 in chapter 1). Perhaps the most acceptable description for social interaction in relation to this study is that social interaction is behaviour which connects people (Runmel, undated) so there was the need to explore it as an experience, to 'build up a clearer picture' which explains *how and why* the built form is used by people (Bramley et al., 2010, Green and Browne, 2005) and well as how the built form influences people's interactions. To comprehend why people use certain spaces to interact (and) interact amicably, it is useful to understand the meanings attached to these actions relating to use of space and place for friendly social interaction. The knowledge is valuable for place making interventions. Understanding these meanings of behaviour, is too complex for a survey to decipher and unfortunately in-depth exploration of social interaction as behaviour is missing in previous research carried out on social life/relationships (interaction) within the built form, as could be seen in chapter 3 section 3.3.

With these considerations, it was important that this research adopted a qualitative approach as the most appropriate to conduct the research and gather the information required to meet the research objective (Vaus, 2001). A strategy characterised with qualitative research was further chosen to help with this research investigation. This is the case study strategy. The following section will discuss the case study strategy, as a qualitative approach used to conduct as with this research.

4.2.2 Case study research strategy

The case study strategy is the most complex qualitative research strategy (Marshal and Rossman, 1999). However it is considered the best to use in this research after some other strategies were examined to help arrive at the decision of using the case study strategy.

The phenomenology strategy appreciates individual differences in experiencing a phenomenon, for example grief (Creswell, 2007). This is not applicable to this research because the interest is to understand how people use space for social interactions which are an everyday occurrence. There is no particular phenomenon of interest to be explored as such so this approach was discounted.

The ethnographic strategy is perhaps an approach that could have been adopted because it encourages a day to day observation of a way of life (Creswell, 2007). How people living within a residential environment interact with each other could have been examined in this way however there are issues of recording accurate facts over the given period of time assigned to doing this research. The act of observing could distort behaviour and hence provide a distorted truth and hence was not used. It can be argued that narratives provided during in-depth interviews or information provided in a questionnaire survey can also be distorted. However this research adopted a variety of methods. The outcomes of the various methods were triangulated to help give an accurate and authentic account of how, where and why and interactions happen within the residential environment.

To an extent the grounded theory approach was adopted, though not as the predominant approach. Grounded theory is interested in discovering a new theory or developing upon an existing theory (Creswell, 2007). According to the literature, the theory is that social interactions can be influenced by the built form design. Another theory is that social relationships are good for mental well-being. On the premise that social relationships are built by interactions between people, this research wants to know to what extent and how the residential environment affects positive social interaction. The residential environment is therefore a very important independent variable in this research, therefore an approach which accommodates an analysis of the environment within which the phenomenon happens itself is required. The case study strategy was therefore adopted. The paragraphs below will explain why the case study strategy was used, by defining it and then outlining the reasons.

A case is the object or the unit on which information is collected (Vaus, 2001) such as, an event, an individual or a group of people, an organisation, a place or places, therefore a country, a city, a neighbourhood or a street can be an object/unit studied. Understanding the dynamism of social interaction within the residential environment is the focus in this study, and to achieve this, it was imperative to study the happenings of social interaction within the home-patch looking at outdoor spaces around different dwelling types, and make comparisons and then assess which patterns seem favourable to positive social interaction. Therefore social interaction within the residential environment becomes the phenomenon being studied within the context of the physical environment, i.e. the object or the case.

The ‘case study’ strategy has been criticised as lacking rigour (Rowley, 2002), however, it offers insights into the research topic than would any other research strategy. The use of case study strategy supports a deeper and a more detailed investigation necessary to answer how and why questions (Rowley, 2002). Yin (1994) proposes case study, when a *“how” or “why” question is being asked about a contemporary set of events over which the investigator has little or no control’ (*p 9). This relates well to the underpinning research objective (which examines *how the use of different residential built form affects positive social interactions*). Also, case study investigations are empirical inquiries, used when boundaries between phenomenon (social interaction) and context (the residential environment) are not evident (Yin, 1994).

Adding to these points a method of inquiry the case study relies on the use of multiple sources of data to triangulate for validation. It benefits from theoretical propositions aiding in the development of the research plan and it is best used when there are more than one variable of interest in the study (social interaction which is the dependent variable and residential environment which is the independent variable). Research findings may not be generalised but theoretical positions can be developed to further enhance the understanding of social interaction as a practice within the residential built environment. (Yin, 1994, Bryman, 2008). Such positions can be useful in informing policies that influence the development of spaces and places where people live and how this will affect their interaction. The nature of the research question has prompted the use of multiple units for analysis, hence the multiple case study approach. A single case could have been adopted because of the distinctive nature of the case (residential area with all dwelling types). However it was important to examine more than one case to help with theoretical as well as lateral generalisation (Yin, 1994), hence the study adopted a multiple embedded case study approach.

The cases studied were residential areas in Edinburgh of which social interaction around the space of four dwelling types is being examined, therefore making the case study areas embedded in nature. The dwelling types studied were: semi-detached, terraced, 4-in-a-block and the tenements. Each dwelling type has been discussed in chapter 5. This variation in dwelling type was necessary to carry out a comparative analysis to assess which residential built form type influenced social interaction. This is because people’s social outdoor experiences within the different types of residential built form will be different and unique to each (Skjaeveland and Garling, 1997). Choosing a residential

area which contained these dwelling types was important as Cozens and Hillier (2008) advise that area sensitivity in people-environment studies should not be taken for granted. Meaning the differences in the character of different environments should be acknowledged as a potential to influence social life.

Examining social interaction within the different dwelling types located in different geographical areas was not considered effective. The reason is that area effects would be different. It is important to note that the home-patch and areas further to home were of interest and not just the dwelling. The features attached to the dwelling at any distance from the dwelling are imperative to study social interaction as dwellings cannot be considered in isolation (Gruber and Shelton, 1987). In this respect the effect an area has on social interactions is important and will be unique to each area. Section 4.2.3 explains some of these area effects. Common features within an area like a playground and a public house and how they influence social interactions will be a reference point to examine social interaction against. If different areas which contain the same dwelling types are examined, the reference points will be different as such it might be difficult to appreciate the dynamics in social interactions aside the point that the dwellings are the same. So for example if social interaction is examined in area A which contain houses and then social interaction is examined in area B which contain flats, it is likely that there will be differences in the reports given of social interactions of course. Also there will be different reference points like the parks or play areas or streets mentioned in relation to how social interaction happens. Eventually the real dynamics in area social interaction might not be felt or areas containing the same dwelling types are too homogenous to enable a variety in sociability to be appreciated. To get real differences of how both house dwellers and flat dwellers interact with people within the same area using the same reference points as mentioned above seems useful. People can explain how these features which all relate to the spaces around the different dwelling types influence their day to day social interaction.

Though comparing the different dwellings within an area is beneficial for the reasons given above, identifying an area which contained the dwelling types of interest was challenging. Eventually two areas within Edinburgh were identified and used as case study areas: Currie and Restalrig. Apart from convenience[11] and the need to study in Scotland, Edinburgh (see chapter 3 section 3.3), there were other reasons for choosing

[11] Edinburgh is where the researcher lives.

areas in Edinburgh to study. The section below justifies the choice of these two areas further.

4.2.3 Justification for selecting the study areas

The following factors influenced the choice of the case study areas:

- A residential area which contains all the four dwelling types
- An area that was neither affluent nor deprived and
- An area with low population turnover

Using these criteria meant that a socio-economic group who are neither affluent nor deprived but are of a fair social mix[12] was to be captured. This was to help effectively identify how the use of the built form primarily affected their wellbeing through positive social interaction. The ecological nature of the factors that affect social interaction means no one factor is dominant, however for some groups it is deemed possible to study some effects more clearly than others. In other words, studying how the built form affects positive social interaction which is beneficial for mental wellbeing might be a bit more difficult with some groups than others. It is indicated that the different dwelling types house different social classes (Bramley et al., 2010, Johnston, 1971). For example, high-rise flats developments are often home to lower income groups who are associated with lower mental wellbeing (Quinn and Biggs, 2010, Bond et al., 2012). As a result, when studying the effect of built form features on positive social interaction (notionally known to be good for mental wellbeing), in for example a deprived area, it might be difficult to identify the exact factors from the use of the physical features of built form that affect the positive interactions or negative interactions. The same with affluent areas, Currie (2008) points out that your health and well-being are likely to be better when living in an affluent area (and vice versa), hence it might be difficult to identify how the use of the physical features of the built form affect positive social interaction, because the majority of the factors in this area is favourable to an extent.

[12] A group which fall neither within the very affluent nor deprived category, but in the middle and an area with a fair social mix as per Atkinson and Kintrea(2001). Another definition is a situation in which a number of social classes or occupational groups are presented (Cowan, 2005; Little and Mabey, 1973).

According to the Scottish Index for Multiple Deprivation data there is a clear linear relationship between people's wellbeing (where WEMWBS and GHQ12 - a general health questionnaire was used to measure wellbeing, see section 2.2.2) and the level of deprivation of the area where they lived. Men and women living in the most deprived areas were likely to have a 'number' of symptoms for mental distress (Scottish Government, 2012b). In other words 'area effects' have to be considered. An area effect is the *'net change in the contribution to life chances made by living in one area rather than another'* (Atkinson and Kintrea, 2001, p 2278). This means that area effects can be positive or negative depending on the area. Council/social renting and education background have been used as a proxy for being low class in research by Atkinson and Kintrea (2001). Their work found that being in a deprived area is worse for a person than being in a socially mixed area. Hence in order to study a group who has fewer effects of the area on them, a socially mixed area was selected. This also influenced the choice of dwelling types, hence discounting high rise flats (most often associated with deprived areas) and detached dwellings (most often associated with affluent areas), which were excluded, and the semi-detached, terraced, 4-in-a-block and the tenement dwellings were included and studied.

The selected demographic group who are middle to working class parents occupy these selected dwelling types, as they present options to live within their four walls in a cost effective way (Schittch, 2006). But it is necessary to emphasise that the selected demographic group (households with children) occupy *all* dwelling types in Scotland (SHCS, 2012). This group tend to have a low rate of population turnover as they are a stabilized due to their family status and the associated responsibility of childcare and career stability. In 2002 a household survey held in Scotland proved this low rate of turnover as family households were found to have lived within their current home for five years (SHCS, 2002).

Taking these factors into consideration two areas: Currie and Restalrig, were selected. The selection was informed by: informal site surveys[13] ;digital maps use, for example Google maps, OS maps through Edina digimap; relying on background information on the CityForm study and using local knowledge, for example contact with community centres and communication with long standing residents. The chosen sites are located at the opposite ends of the city of Edinburgh. As discussed in chapter 3, the study focused

[13] Site visits conducted between January 2012- July 2012.

on residential dwellings with their associated designs and patterns including street layout within the two areas. This resulted in a number of sub-areas being studied within each study area (see Appendix M).

The sections above justify the choice of the research strategy. The next sections will explain the process of the data collection, which includes the selection of the demographic group and the methods used to collect data from them.

4.3 The process of data collection the field work

This process of data collection starts with discussing the demographic group, how they were recruited and the various forms of data collected from them.

4.3.1 Demographic group selection and justification

Parents with children up to age 11 were the chosen demographic group. This group was chosen because they spend more time in the residential environment and use it extensively due to personal and social circumstance (including use of the residential environment expansively for child care duties). The rationale for choosing a group such as this is because it is believed that by studying this group, rich information regarding the way people in general use the residential environment to interact with each other will be captured (Patton, 2002). Choosing this group followed from a careful comparative analysis with other groups.

Another group which have been characterised as spending more time using the environment are the elderly and pensioners, because they are seen to have 'free time'. Bearing in mind that this research is about health, research work on the elderly and how their use of the built forms affects their wellbeing has been extensively carried out (Brown et al., 2008, Barnes, 2002, Gehl, 1987, Burton, 2010, Burton and Sheehan, 2010). Children are another demographic group who extensively, intuitively and innovatively, use their environment. The use of space by children and also how it affects their social health/life/development has been well researched (Corcoran et al., 2009; Kytta, 2011 and Bould, 2003). Children are creative with the way they use space and hence use spaces extensively and intensively. The meanings they attach to the use

of space could provide an insight into how friendly spaces could be created. So though this group have been studied, there might still be scope for further studies on how children use their environment. However, consideration was given to the stringent ethical procedures that accompanied the studying of this demographic group. In considering all these, parents with aged 0-11 years were chosen instead. As at this current time, it is not yet known if any study has examined residential space use by this specific group, i.e. 'parents' as a sample and particularly how the residential built layout impacts on positive interaction which is health enhancing (mental wellbeing or happiness).

There is the argument that to justify a sample means knowing all there is to know about the universe, and this is impossible (Marshall and Rossman, 1999). Despite this, it was imperative to select a group from which authentic space use information could be derived. One might argue that the outcome of the research will then be beneficial only to this group, because as Yancey (1972) warns no one architectural style will have the same effect on all social groups. Choosing carefully however, allows for the outcome of the research to be useful to an extent in designing residential environments in planning practice.

Recruitment Process

30 individuals were recruited for the study and all of them are parents and each individual was from a different household. A sample of 30 plus was proposed with an average of 7 to 8 cases being studied for each dwelling type (semi-detached, terrace, 4-in-a-block and tenements). See chapter 6, table 6.2 showing sample proportions for each house type across the two study areas so in effect, 30 different dwellings were investigated across the two study areas. For all the dwellings, different blocks were looked at across the two areas. It is important to note that there was no intention to recruit numbers in order to strive for representativeness or statistical robustness and significance, because this is not feasible in a qualitative study. However it was important to achieve data saturation in order to understand space use behaviour within residential environments.

The respondents were contacted or collected using a number of mediums. Flyers were made at the initial stage to invite parents to take part in the study. Flyers were left at supermarkets, all nurseries, toddler groups, primary schools with permission from head teachers, community centres and libraries within the Currie and Restalrig case study areas. Flyers were also handed to parents at school gates, at supermarkets and on local streets as well as put in letter boxes in the study areas. The letter box approach was used on several occasions for these dwellings with the attempt to recruit participants.

Information sharing media were also used in the recruitment process. The website called 'Netmums' was also used to advertise the study and recruit participants[14]. Local newspapers, namely 'Speaker' and 'Currie News' newsletters were contacted and asked to advertise the study. The snowballing recruitment technique was also adopted at a point in time. A limited number of participants (4) were recruited via this method. This was useful so as not to affect the information gathered and the outcome of the analysis. Some participants mentioned people they casually knew who fit the selection criteria and not necessarily friends they interact with. The snow balling method was used in instances where certain dwellings were under represented. Participants were asked if they knew of parents living in those dwelling types who might be interested in taking part in the study. All dwelling types (the four named) had a good representation from all the recruitment sources (see chapter 6, table 6.2). It may be argued that being able to find participants living within all the dwelling types shows, how successful the recruitment method was. The most successful recruitment method was the use of flyers to advertise for participants.

Participants were given a £15 shopping voucher for taking part in the study. Apart from being a thank you gesture, the £15 could also be described as an incentive as this was advertised on the recruitment flyer (see Appendix D). There is a contentious and also ethical issue concerning the giving of incentives in research. Some see it as a way to 'buy' research participants or give them a reason to take part in your research, i.e. an 'undue influence or coercive offer' (Grant and Sugarman, 2004). Incentives can be problematic when the participants are: in a vulnerable position and have to rely on these incentives; are hard to reach groups who will only part take in research where incentives are offered; are persuaded with the incentives to partake in the research and as a

[14] This website is made up of a group of mothers who shares common interest about childcare and motherhood. http://www.netmums.com/.

standard to extracting information from them, i.e. bribery (Grant and Sugarman, 2004). In the case of the latter, it becomes a power tool for manipulation. On the other hand, it is considered to be innocuous and is just a way of appreciating the time participants give to take part in your research. Incentives should not be seen as benefits but as a compensatory measure for the participant's time and inconvenience. To enforce this compensatory role, the incentive should not be over emphasized in the recruitment material Frederick (2009). In the case of this research study, the incentive was used as a way of appreciating the time[15] and commitment given to the research by participants. A good amount of information, i.e. interview data, visual cognitive data and an activity diary were asked of the participants who as parents may be busy with childcare duties. Such commitment had to be rewarded somehow. Some participants however turned down the incentives because they were simply interested in the research topic and just wanted to take part.

4.3.2 Data collection and sources

The case study strategy is known to typically draw on multiple sources of evidence (Rowley, 2002). Two types of data were collected for this research, environmental and social data (see figure 4.1). Area surveys and observation were carried out[16] to gather the environmental data of the study areas. This is generally the state of the environment because there are correlations between the state of the environment and how it is used. See Appendix N for the checklist used for the observation. It was not feasible to gather social data using the observation method even though this is the dominant methodology used in space use for sociability research. Such examples can be seen in studies conducted by Gehl, (1987), Whyte, (2010). Some places and spaces where interaction happens within the residential environment are not in plain sight and hence could not be observed for social interaction data.

[15] The data collection period also spanned over a period of 6 months from October 2012 to March 2013
[16] The Researcher

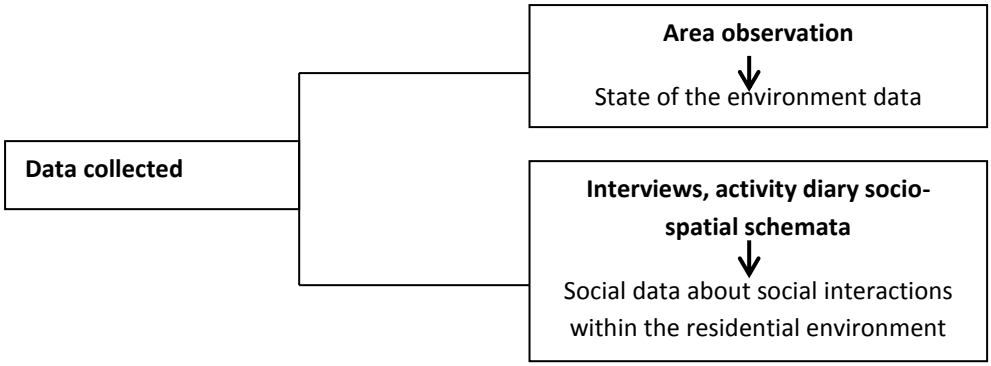


Figure 4.1 Multiple methods for multiple data

Discussions in section 3.4.1 and 4.2 explained the need to gather information that provides authentic information about where, how and where people interact within the residential environment. The methods used to gather the social data aimed at doing that. The sections below discuss the collection of the social data collected from participants via two main methods: in-depth interviews and an activity diary.

In-depth Interviews

The in-depth interviews included a number of elements: a walk along element; an OS map annotation; a micro space use drawing element; a self-completion of a SWMWEBS and a socio-economic status questionnaire. 30 participants across the 2 study areas were interviewed from September 2012 to March 2013. The average length for the interviews was 45 minutes. The interviews occurred mostly in the participant's living room or a common area in their homes. Only four participants were interviewed away from home, i.e. in meeting rooms at the Heriot-Watt University campus. This was because it was more convenient for participants than being interviewed at home. Permission was sought from all participants through consent forms (please see appendix F) to record the interviews and all interviews were recorded.

The interviews were in-depth and semi-structured in style (see appendix G for interview schedule) and were set up to be conversational allowing for flexibility, this meant more

room for lengthy discussions and long narratives. As Yin (2003) advises, this approach is essential to allow for rich responses from the participants, whilst pursuing a consistent line of inquiry in the interviews (Rubin and Rubin, 1995). In some cases probes were used to encourage responses to have greater depth and to be more sensitive to the concepts analysed in the literature review (Seale, 2004, Yin, 2003). Apart from the probing for further information or clarity, as mentioned, the interview process included some other elements which were necessary to gather useful behavioural information with regards to how and why some spaces were used and preferred over others. These elements are discussed below. Apart from the self-completion questionnaire, which always came last, the other elements in the interview process happened when it was most convenient.

Walk-along element

26 interviews at a certain period during the interviewing process took place outside the home, i.e. either in the back or front garden. This was when as participants pointed out to where they used and where interactions occurred. This approach is described as a 'walk-along' type interviews (Hein et al., 2008). The 4 interviews which did not include the walk-along element were those conducted elsewhere than in the home. This element was not necessarily to study life in motion, but to allow the researcher better understand the relationship the participant has with his or her environment (Jones et al, 2008). This methodology seems to be used when there are longer distances to cover or wider areas of space to explore (Pooley et al, 2010; Evans and Jones, 2010). In this instance it was not the case, as the spaces around the house was the main focus and interest, but it was useful to appreciate the space use element in reality rather than narrated. As part of the walk-along interviews, when it became of interest to capture the information provided in visual form, photographs were taken with permission. The photographs were taken of private outdoor spaces where interactions happen, for example, spaces which are hidden from public view such as private or shared gardens, decking spaces, and views from the inside windows. These were used where appropriate in the thesis to illustrate the nature and character of some of the spaces used for interactions. The walk along interview was recorded. When necessary, prompts were used such as the names of features (e.g. when the participants says 'there', but refers to a fence or a bench) were mentioned.

Visual data

During the interviewing, visual data in the form of an Ordnance Survey (OS) map annotation and micro space use was collected from *all* participants. OS maps on an A3 sheet at varying spatial scales showing the wider area the participants lived in were used to gather information on places and spaces used for social interaction. Participants were asked to annotate the maps showing the boundary of their neighbourhood and areas that they visit. Though the interest is in understanding how social interaction happens within the spaces around the dwellings, it was important that the wider space use for interaction was captured to enable certain patterns to be identified. Yin (1994) advises that cases should be understood not only in terms of the phenomenon but also the context.

Following the map annotation exercise participants were asked, to draw a bird's eye view of their immediate home surroundings and show where they interact the most and explain why. The drawing exercise was particularly awkward for tenement dwellers and 4-in-block dwellers. Most participants commented on the difficulty in drawing or not having ever to do this in their life rather than merely talk about issues, therefore it proving to be a challenge, but then a positive challenge because by their accounts they saw their world in a tangible form which was/is their own creation. To overcome this difficulty, participants were asked to draw a block and avoid any detail which complicated the task. Most diagrams however were clear. These drawings were to provide visual information about the places and spaces used for social interaction or places and spaces where most interactions happen within the participant's immediate home surroundings. Encouraging people to represent how they 'view, 'understand' and use (hence facts than perception) their home environment was useful. It enabled them get an understanding of how their environment influences their social interactions. The drawings were a representation of their social world influenced by their constructivist person. It also allowed more detail and a clearer picture of places used for interactions to be presented than the discussion/narrative would have. Apart from collating useful visual information it got participants involved in the research, thus giving the research subject a voice in the research (Bagnoli, 2009) by *'empowering the research participants and placing the agency literally in their own hands.'* (Literat, 2013, p85).

Self-completion questionnaire

Finally, a self-completion questionnaire with the 7 item SWEMWBS and socio-economic information was also used to gather information on the participant's mental wellbeing and their socio economic status (See Appendix I). The questionnaires were completed at the end of the interview. The information gathered was to be used as benchmarking against data from the national health survey.

Reasons for pursuing the interviews as a method of data collection

The face to face in-depth interview was useful in collecting information that was insightful and provided instrumental inferences. The interview approach was effective in the acquisition of in-depth information from respondents on their social interaction experiences. This approach was to some extent backed with other data sources to give depth to the information provided as well as allow verification.

In terms of the weaknesses associated with this data collection method, it was perceived at some moments during the interviews that the participants wanted to provide information they felt was wanted. This has been identified as a problem with interviews (Bryman, 2008). Some participants sometimes contradicted themselves during the interview. To ensure consistency, questions to which varied answers were given by the respondents were repeated. Also, during some of the interviews parents encountered some distraction from the children, but they seemed happy to allow the children to take part in the interviews. For example, some parents were asking children questions about places they both use for activities. Some of the children drew on the maps in an attempt to provide information. Some parents also answered questions from the children. The process was interactive and fun and brought out an interesting aspect to the research.

With regards to the visual information, Kaplan and Kaplan (1989) state that people need to make sense of their environment and people do this cognitively. As human cognition is very strong in influencing interpretation, the use of visual methods was useful to try and appreciate how people understand their environments. Visual research (use of visual information in research) is not new. It originated in the subject of anthropology, where researchers used visuals to supplement the accounts of a life phenomenon (Literat,

2013, Gibson and Brown, 2009). However, it is an understudied method in qualitative research (Literat, 2013). There is also very little literature on the use of drawings in spatial planning research, as compared to the use of the mechanical tools such as photographs and videos (Deacon, 2000). Planning practices also use visual information a great deal in community participatory activities, and by doing so are able to gain an understanding of what people think and what they want and how they feel about their environment. Visual information is also used in research where children are part of subjects or are subjects (Literat, 2013). This research, indirectly involved children and information about spaces they use and prefer to play and interact in was provided by adults often asking the children during the interviews. Visual information are said to be *'an extremely useful documentary resource' for* social research and can be used *'in presenting the outcomes of research'*(Gibson and Brown, 2009). It is a rich type of data that provides depth to a description than a written text. It's a powerful tool to use in research to present information. However, visual images, especially photographs, need to be analysed with great caution, especially where they depict social life. Firstly, the image could be analysed to show a deviation from the real truth. An example is given of Howard Becker (2002) as cited by Gibson and Brown (2009) where a picture was interpreted in a way that misrepresented the real situation of a place.

SMS (short messaging service) data capture -text messaging

After the face to face interviews, participants were asked if they would be interested in taking part in a form of activity diary data collection method which required that they text about their social interaction experiences. The SMS survey was used to collect current day-to-day accounts from participants on *where and how* they interact with others in the home-patch. *All* the participants were happy to take part in this second phase of data collection; all confirmed that they had mobile phones and were happy to give out their numbers for the SMS survey. The SMS survey was conducted within four to seven months after the in-depth interviews. The intent was to gather 'space use for interacting' data at a different period of the year and in warmer months. Prior to the SMS survey, self-help and explanatory documents and letters were sent to all participants to explain the dynamics of the process as well as some of the terms used, such as the 'immediate' and 'wider' neighbourhood (see appendix J).

Residents were asked to provide social interaction information via SMS over some days in the period of two weeks over spring (6^{th} to 17^{th} of May 2013). The days were selected at random within the two weeks but covered both school days and weekends. On each of the days participants received 5 SMS questions sent in sequence. The sequence of questions was based on the answers given. In some cases participants provided such detailed information that additional or subsequent questions were not needed. Where the responses were not clear participants were asked to clarify. Problems were not encountered in terms of the use of 'text language'. All texts were of plain English, easy to read and understandable apart from a few typographical errors expected due to, fast typing or abbreviated words. Participants were encouraged to elaborate if they wished. This flexibility was encouraged in order to get a detailed account from them in terms of space uses for interaction. Sending photographs was also encouraged; however none provided this, but answered to the SMS. All SMS questions were sent between 6 to 8 pm in order to avoid clashes with day-time activity. Participants who failed to respond were re-sent the SMS 24 hours later asking for their interaction of the day. On average each participant provided 3 out 5 days interaction information. Some participants were more active than others responding to all the 5 days whilst others were not. Out of the 30 interview participants, 27 took part in the SMS survey.

Reasons for pursuing the SMS survey as a data collection method

As mentioned previously, the SMS method, which is akin to an activity diary, was pursued to collect current day-to-day accounts from participants on where (places) and how (the manner and frequency) they interact with others in the home-patch. Information about their motives was gathered from the interview data but more information was needed to establish the dynamism associated with the use of places for social interactions. See figure 4.2 below. An activity diary was considered because it is usually used to gather movement/travel and behaviour information of people over a period of time within a restricted geographical location (Crosbie, 2006). It has a further advantage of allowing the researcher to understand and appreciate a phenomenon than he/she would have in a one-off interview, as well as allows for empowerment of participants in the research by enabling them develop '*their own voice more easily than they can in an interview setting'* (Gibson and Brown, 2009).

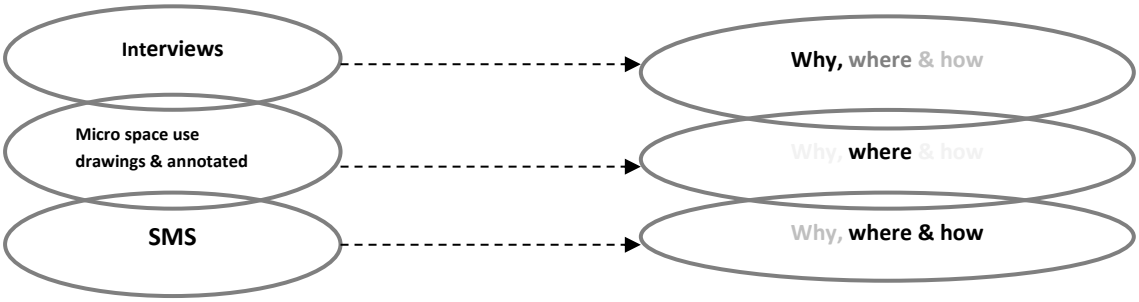


Figure 4.2 How the SMS data fills the gap in knowledge required

Various systems both E-Systems and others that could be used as activity diaries were investigated. Following that a number of cost effective systems were explored because of the limited budget available for this research project. Ideas were also shared with experts, colleagues and also participants during the process of finding the most appropriate ‘activity diary method to use. Using texts messages - SMS as an activity diary method was considered above other methods. Table 4.1 explains the reasons for not patronising the other methods.

Table 4.1 Other suggested 'diary' methods

Methods	Detail	Reasons for not patronising it
Observation of behaviour - SI	*Use of systematic social observation methods to observing residents and how they interact within their residential environment. This method of data collection had been inspired by Whyte's (1980) theories and principles to analysing space use.*	*The observation method of collecting data, requires that a technique of rules is employed to observe and record behaviour (Creswell, 2009).* *- Behaviour alterations could occur due to the knowledge of being watched.* *- Authentic interactions might not be captured.* *-Not all spaces where social interaction happens within the residential environment could be easily observed without breaching people's privacy.*
Activity diary	*Using paper diaries to record spatial interaction information over a period of days – 2 weeks. Participants were then to post diaries back after full completion of it.*	*The method is not reliable as diaries might not be returned, or social interaction information might not be provided if participants are not reminded (Crsobie, 2006).*
Twitter, Facebook, email	*This approach is similar to the activity diary method and will require participants to record and send daily social interaction events on a social media site. Unlike the activity diary paper method, entries would not be accumulated before being sent to the researcher.*	*A majority of the participants did not have twitter or Facebook accounts. For those who did, they mentioned that they hardly had the time to visit these sites.*
Internet messaging services	*This method uses an internet enabled application to send messages and also send videos as well as do video messaging. A smart phone is required to operate these applications. Examples include Wassup, Tango, Viber, Freetime, Skype, Vonage, Kakoo Talk, Hangout.*	*These alternatives to SMS are more advanced as they allow visual information to be shared as well, however to use them, one needs to have a connection to internet which is not always feasible for pay as you go customers. Also to have access to these applications, participants would have to download them if they did not have any, whereas for the SMS system, there was no need to download an application and no need to have an internet connection to receive and send messages.*

Using the SMS method has several advantages, which includes:

- Feasibility: i.e. in this current ubiquitous technological environment, the use of electronic methods particularly 'texting' to measure social interaction seemed feasible (Humphreys, 2005).

- Scalability: i.e. the ability to gather information on a large scale considering the number of people said to own, subscribe and use mobile phones. As at 2013, 92 percent of adults in the UK owned a mobile phone and 3 billion worldwide, and the number of texts a subscriber sent in a month were 153 (Ofcom, 2013). On average a person can send up to 160 characters in a message (Crystal, 2008), therefore allowing for extended messages to be sent in a text. Hence participants could successfully send a good amount of information about their interactions in a single text.

-Popularity: i.e. sending texts, is a widely accepted means of communication today. For example, during the recruitment stages of this research, 23 out of the 30 participants contacted the researcher through text messages. It demonstrates that people are happy to send SMS/texts as a means of communicating.

- Affordability: as mentioned above the study adopted one of the modest uses of the mobile phone for information due to the lack of research funds to develop an application to track movement and interactions of participants. The issue of affordability was also to the benefit of the participants as most air and talk time packages contain free messaging services. In that regard it cost almost nothing to send texts messages to the researcher and vice versa. The SMS was sufficient enough to provide the social interaction information required.

-Time saving: i.e. it did not require an extensive use of participant's time, in terms of replying to texts messages. Unlike with the other activity diary methods, participants did not need to record events either on paper or via a computer software or system, but rather via a device in hand. Also the information they sent was still visible to them, which supports the participant empowerment point made previously.

There were some challenges however associated with this data collection method. Firstly, there was a potential for this aspect of the data collection to be onerous regarding the fact that participants are busy parents and guardians. To encourage

involvement and interest, questions-texts were few, short, specific and direct (see Appendix L). Lessons were learnt from SMS/MMS marketing approaches such as used by mobile phone companies when asking for feedback on a service. Also Crosbie (2006) advise that with activity diary data collection methods should be designed not to be onerous. Therefore adopting the strategy for using text to collect data was designed in the most user-friendly way to encourage participation.

Piloting

The methods used to gather the social data were piloted. 7 people consisting of work colleagues, students and family were approached to help pilot the various data collection methods. Piloting is important and crucial if a good study design is expected. It can give prior warning to possible failure of the research project, especially if the instruments to gather the required data are inappropriate and complex (van Teijlingen and Hundley, 2011). Piloting can be a feasibility study, or testing of the research design instruments to ensure that they are reliable and feasible to use. In this case both approaches were used.

The interview schedule was tested between the period of July and August 2012. The pilot testing revealed the need to acquire micro space use drawings which explained how the participants used places and spaces (through drawings). It was realised during the test interviews that when participants were asked questions about where they met and interacted with neighbours the most, or spaces and places of interest, they gave a narrative which was useful, but could not be appreciated without a map. This conceived the idea of using visual aids – maps and also participant–generated micro space use drawings in the subsequent interviews, including an element which captured this space use information visually was deemed useful because it could be used to extract various forms of space use and behaviour information.

The SMS survey testing was carried out in April 2013. A pilot feasibility study was undertaken because it was a novel element and hence needed to be adequately tested and the findings analysed before proceeding to use it as a data collection method. Some modifications were done as a result of this testing. The decisions to gather data on 5 days at close intervals was considered during the pilot exercise. It was revealed that

gathering this type of data over a prolonged period of days might cause participants (especially as they have already been intensively interviewed) to lose interest, hence it was kept to a minimum. Secondly there was the potential for this aspect of the data collection to be onerous because participants had already provided information via the interviews. To overcome the process being burdensome, the questions i.e. the SMS were structured to be specific, direct, few and friendly to encourage participants.

Ethical Considerations

Ethical rules and codes of conduct and assessment criteria as set by Heriot Watt University were adhered to: An ethics form was submitted to the School of Built Environment Ethics Approval Committee for approval. As a social science/real world research, '…following a code of conduct which ensures the interests and concerns of those taking part in a research' '…is essential to …'seek the truth about whatever is the subject of the research' (Robson, 2002, p 18). Consent for participation was sought from all participants using a research consent form which outlined the details of involvement in the research (see appendix F). Each participant *agreed* to willingly participate in the research.

Data protection in line with the norms of social science research

Some personal information was collected from participants and there was a need to assure participants of the safety of the data and their personal information. The consent form mentioned that details provided will be held in the strictest confidence. Personal information provided by participants was saved on spreadsheets and encrypted. An example of personal information is that of participants' addresses and mobile numbers which was required for the SMS survey. Also participants provided information exposing aspects of their personal life, i.e. what they are doing and with whom and where, hence there was the need to protect the information strictly. The mobile phone used for the SMS survey was also secured, by putting a password on the phone. Data accrued from all sources were stored and handled in line with the Data Protection Act 1998.

4.4 Data management and analysis

Data management

A good amount of data was generated from both methods that were adopted: in-depth interviews and SMS survey. Altogether 30 in-depth interviews were carried out at an average of 45 minutes per interview. All interviews were transcribed in detail using the focused transcription approach. This allowed an analytic focus to be given to the interviews thus categorisation and sorting of the data to be further scrutinised and enabled sense to be made and links drawn out of the data (Gibson and Brown, 2009). The interviews also generated 30 annotated maps and 29 micro-space use drawings. 27 out of the 30 participants participated in the SMS survey and the majority provided 5 days of interactions. The text information received was downloaded onto a computer for easy access and analysis (Willis et al. 2010, Graham et al.2010). Software Wondershare MobileGo for Android[17] was used to transfer all text messages from the phone to the computer. This transfer resulted in 27 A4 pages of text information about participant's interactions (an average of 1 A4 page of texts per participant).

All data was managed manually and with qualitative data management software packages. Software package Nvivo was used to help with the frequency analysis (how often participants met people and where they most frequently met people). The approach taken to manage the data both manually and via software was considered best considering the variety of data sources available to use in this research. It seemed feasible to look through the data sources manually to pick out parallels across the data sources but then the use of the software was employed for endorsement when required.

Creswell (2007) argues that the process of coding as done by the computer is the same as done by hand. The researcher does the analysis and not the software. This is true; however the advantage of using the computer systems is for transparency in the data analysis process. When data is managed using computer software, the results and the process of acquiring them, are stored in a system which can be accessed easily by anyone. This is important in validating qualitative research outcomes. Bearing this in mind, the management and analysis of the data was documented electronically and an

[17] Downloaded via this site http://www.wondershare.com/android-manager/

audit trail developed. Highlighting texts on sheets of paper or coding on hard copies was avoided.

Visual data[18] was scanned onto a computer file and attached to the relevant interview transcripts. Images were not altered in any way to avoid giving a different interpretation to these images as well as erasing the empowerment role of the participants. Literat (2013, p94) emphasises this by saying *'....it is vital to keep in mind the fact that participants-generated drawings are always a product of the individual's particular cultural background and thus resist a culturally neutral interpretation'* p 94. Lessons were learnt from other visual research studies, where non mechanical visual images were used, these were presented as it was drawn by research subjects (Deacon, 2000; Kuhn, 2003; Kearney and Hyle, 2004; Guillemin, 2004; Literat, 2013).

Data analysis

There seems not to be any prescribed method for analysing qualitative data but it is important to adopt an effective approach which utilises the data amassed for maximum output. In this research the process of collecting and analysing data initially worked in parallel, mainly because of the period used to gather data. It was important to use themes developed from the previous interview data to guide the data collection of subsequent SMS data. Themes developed from the literature analysis and review was also used to guide the thematisation process of the analysis which is a grounded approach. Refer to discussions in sections 4.2.2 and 4.3.2. However after data had been collected, a sequential process of analysis was embarked on. These steps are cognisant with Marshall and Rossman (1999) stages of analysing qualitative data: organising the data; generating categories, themes and patterns; coding the data; testing the emergent understandings; searching for alternative explanation, making propositions and then writing the report). Some stages (i.e. the theme testing and reviewing) were adopted from Yin (1994). The processes are discussed below.

[18] Hard copies of annotated maps and micro-space drawings

- *Familiarisation* Familiarisation with the data (the interview transcripts, the annotated OS maps and the micro-space use drawings and then the SMS survey results)
- *Coding* Organizing and reorganizing the data into various labels which could be referred to as codes. This might be described as a process of branding the data for identification purposes.
- *Thematising* The next stage is thematising which is identifying links and relationships between these labels or codes. This stage is important to break down the large data into manageable and clearer 'chunks'.
- *Theme review and testing* Reviewing and testing these themes was necessary to ensure that they are authentic enough to be used to analyse the data as well as represent the data collected. At this stage the themes are named.
- *Propositioning* Creating propositions
- *Writing about the themes* the writing is the next stage i.e. to write about these themes in the analysis chapters.

The first stage required spending time with the data, by reading the interview transcripts, listening to interviews, and examining the visual data and the text messages received on space use for interaction (*i.e. familiarisation stage*).

Secondly, for the coding stage, codes were first created from emergent concepts and theories which furnished the interview schedule (See appendix G). Using these first hand codes also referred to as empirical codes as a guide, the interview transcripts were further coded or re-coded (main coding and sub-coding). This is because as with in-depth interviews it does not always follow the order of the interview schedule (Bryman, 2008). The subsequent coding was useful to help organise, manage and make sense of the vast interview data. Henn et al, 2006 (cited by Gibson and Brown, 2009) state that there is no guideline for coding or labelling qualitative data, it is just useful to help the researcher go through the vast data collected and begin to order it (*I.e. coding stage*).

Thirdly, following the coding of the interview transcripts, emergent/observed themes were identified by creating links and relationships between these labels or codes. This stage helped to break down the large data into 'main chunks' – themes (i.e. *thematising).*

Fourthly, the identified themes were then put into a spreadsheet and then further populated with texts from each interview. This system can be described as the pattern matching approach (Yin, 1994). The pattern matching approach was used over the simpler patterns approach because a further examination of the data could result in other useful outcomes. These emergent/observed themes were also used to organise the SMS data, because the SMS data was not voluminous and so could be put directly into the emergent/observed themes. To enable triangulation, the same derived themes were used. Yin's (1994) repeated observation approach was used to examine the SMS data. This was due to the 'patterns search'[19] character of the SMS data collection strategy. Interactions over a certain period of time were recorded and examined to identify patterns of social interaction within places further to or immediately around the house therefore additional themes were included in the overall thematic analysis of all the data (*i.e. the theme review and testing*).

The fifth stage involved the thematic analysis, which allowed some propositions (outcomes - non-equivalent dependent variables) to be made, which are:

1. Tenement dwellings encourage less positive interaction among residents than the other 3 dwelling types.
2. Terraced and semi-detached dwellings encourage more positive interaction among residents than the tenement and 4-in-a-block dwellings (*i.e. the Creation of propositions*).

For the sixth stage, with regards to writing out the findings, the case study strategy allowed a cross case synthesis (of Restalrig and Currie) to be embarked upon (Yin, 1994). There is no dogmatic template laid out to help guide how it should be done (Gibson and Brown, 2009) and though there are advantages to such flexibility and creativity in presenting findings, there are also dangers in not adequately presenting a story. There was the temptation to analyse the various data for the two study areas separately, however Baxter (2008) advises against this as findings have to be reported unanimously and not separately. A separate analysis might provoke separate reporting which defeats the purposes of understanding the overall case and appreciating the in-depth analysis that was the aim initially. Yin (2003) recommends returning to the proposition or theoretical stance (research question) established at the beginning of the

[19] For frequency of interactions in certain places around the dwelling within the residential environment.

research. This gives focus and enables the research question to be richly answered (*i.e. writing about the themes*).

The analysis of data for findings uses both the deductive (testing theory) and inductive (generating theory) approaches. Initially it was thought that only one approach (inductive) would be used however this is not very practical because qualitative studies should also look at theory testing and not just theory generating (Bryman (2008). The research began with a set of quite specific propositions (theories) which influenced the research plan, aim and focus (questions and objectives) hence the aspect of theory testing. The first theory is that positive social interaction is said to be good for mental wellbeing and the same goes for the reverse (Rook, 1984, Luo, 1997). Another theory is that the built form patterns influence people's movement and social life. This research therefore attempts to further explore the theory that positive social interaction can be generated within the built form (i.e. one way of exploring the relationships between the built environment and mental wellbeing).

With regards to theory generation, the outcome of the system of analysis revealed some propositions on space use and space sharing and how that influences social interaction either positively or negatively (Vaus, 2001). Hence the study adopts the two approaches.

4.5 Research authenticity

One area of interest in qualitative work is reflexivity, looking at the role of the researcher in constructing meaning and interpreting the data at hand. The creativity required in the interpretation and the analysis of qualitative data makes the reflective stance of the researcher crucial. However, before embarking on a discussion on reflexivity, it will be useful to look at some research quality assurance issues. This reflects the rigour and transparency of the research and is an important element in presenting research that is based mainly on evidence and a sound analysis. An attempt has been made to apply the validity, credibility, transferability and reliability tests to this research as in the table below. Below is a summary of what these tests are as summarised from accounts given by Bryman (2008) and Yin (1994).

4.5.1 Research validation

Construct validity requires that a variety of sources are used to gather information about the subject being studied. Bringing the evidence together allows for a greater dependence on the findings than if it was from a single source. The next test, which is- *credibility*,[20] is about making the findings acceptable to others. One way of doing so is doing a member or respondent validation where the findings are presented to 'members of the social world who were studied for confirmation that the investigator (researcher) understood that social world'. Other ways of ensuring credibility are to compare findings against the results of similar studies. *Transferability*[21] is the ability to generalise findings. This is not always feasible with qualitative study due to the intensive study carried out on a small group of individuals. To pass this test, findings should be compared to theories and generalised in that vein. Finally, *Reliability*[22] is about the need to organise and adopt a robust audit approach which documents in detail the research process from problem justification to field work to data interpretation and presentation (not exhaustive). This is important to ensure transparency.

Table 4.2 An *application of validity and reliability tests to the case study research*

Tests	**Application of test**
Construct validity	Use of multiple sources of data and then triangulate Two types of information/ data was gathered from participants – i.e. interviews (with drawings) and SMS
Credibility	-Compare results against CityForm data analysis for the Restalrig areas. -Present findings to the research community of experts in the field and -Present findings to research participants in both case study areas for validation 'to ensure a high level of congruence between concepts and observations' (Bryman 2008 p 376)
Transferability	Ensuring a theoretical generalisation and replication across the two study areas where possible
Reliability	-Present the research process from conception to conclusion -Develop database which records research problem justification the field work process, data collected and process of interpretation. -Develop a database for all records - interview transcripts, SMS/texts, maps, drawings available in data file

Source: adapted from Rowley, 2002 pp 21 and Yin, 1994 pp33, Bryman, 2008

[20] Also referred to as internal validity
[21] Also referred to as external validity
[22] Also referred to as dependability

These tests have been applied to the research to ensure that the findings from the interpretation are transparent, rigorous and to an extent reflect how the built form influences positive social interaction. Following the validity tests, it is important to also note especially in qualitative research, how much a researcher as a person imprints/influences the research. The next paragraphs look into this.

4.5.2 Positionality

Researcher reflection

From theoretical and field work investigations, it can be said that understanding 'interaction' cannot be objectively investigated in a dogmatic, scientific or mechanical approach. Should this be attempted, there is the tendency to lose values and the real human experience that make interaction happen as well as a humanist perspective on why people interact. However in order not to impose 'one's self' (constructivist perspective) on understanding resident's interactions, it was vital to apply a strategy for interpretation that will enable an objective analysis to be made during the data analysis and avoid a subjective interpretation (see data analysis section). However, there is a challenge as by interpreting data as a researcher, one cannot be solely distant. There is a degree of involvement and influence on the outcome so the question is how can a researcher dissociate?

According to Schuster (2013), *'Understanding always starts with experiencing. Otherwise there would be nothing to understand. Our lives are also intertwined with the lives of others.'.....'Understanding is not about solving a problem, but it helps us see possible problems with the phenomenon we are dealing with. In this way, it is a prerequisite for how we orient ourselves in the works in relation to one another' (Pp 196 -197).*

Morgan and Smircich (1980) also state this by saying *'it is the issue of whether or not human beings can ever achieve any form of knowledge that is independent of their own subjective construction, since they are the agents through which knowledge is perceived or experienced' (p 493).*

One suggested way is to create space between the researcher and research subjects. For example, proximity is believed to induce sensitivity to the situation at hand, whereas distance does the opposite (Schuster, 2013). The SMS approach to capturing data could be described to have achieved this, however there is a caution given not to regard such (the distancing) as objectivism (Schuster 2013). On reflection, however, this distancing was possible with the SMS data capture, whereas during the interviews it was not totally without some sort of involvement, especially in the recounts of conflicts and stigma issues by participants. In some instances it was important to understand that only one side of the social interaction story was being given on the side of the narrator (participants) without having the full story and picture of what is happening between the two parties. Knowing this helps in therefore treating the information given not as the absolute truth, but an account or part of the truth.

Interpreting text can be subjective, especially when the quest is to uncover the meanings attached to the texts by the subject (might be referred to as discourse analysis in other respects). In this study, transcription was made verbatim, hence example pauses, silence, laughter, dragging sentences etc. were captured in the entirety of narratives. Also the drawing of space uses and cognition (i.e. how people understand their immediate environment) was captured when subjects did a narrative as they drew. The transcription made this way can be described as one that breathes and 'becomes alive' (Schuster, 2013) and this was done to avoid losing aspects of the information as it was given. This type of transcribing (focused transcribing – Gibson and Brown 2009) allowed for facts and live happenings and narration to be put down as it is and then later afforded an interpretation in the light of theory.

One important and interesting point was the legitimacy of representing the research participants as a non-native (Kobayashi, 1994). This became noticeable when *some* participants inquired as to why I was doing this research in this context of Edinburgh, Scotland, Edinburgh, when being of Black African origin. Secondly questions were asked about not having a spouse and children of my own and doing a research on parents. Due to the overt difference between myself and the research participants who were all but one Caucasian and parents, it might be argued that there was a legitimate curiosity with regards to knowing my motivation. The researcher's gender and age were not at any point an issue, or was not noticed as an issue, and this could be because there was no noticeable difference between that of the researcher and the participants. Having

a dual naturalisation status and an extensive experience in parenting [23] gave an advantage to understand the way of life of the participants. According to naturalisation discourse, the way the world is represented to us and the way we analyse and present it is affected by naturalisation (Kobayashi, 1994). On the other hand, there are advantages to be noted here as with this position of coming from a different world, the experience of doing the research was akin to investigating another new world, hence reporting it for what it is, though the danger existed of misinterpreting it. Being sensitive to the relationship between the 'researcher and those being researched' and how it affects the outcome of the research is important (England, 1993).

It is believed that my social position, helped build relations of trust in most instances, which is important for the field work (Sultana, 2007). This is one way in which this sensitivity, as pointed out by England (1993), was addressed. Also, caution was taken in this research to interpret the data in line with theory and propositions (see data analysis chapter). Secondly, the data analysis strategy and also ideas, were tested with supervisors, peers and colleagues for feedback during conferences and in general discussions for feedback. All of which was considered for a fair interpretation of the data to be made. Thirdly, self-evaluating and critiquing, created an opportunity for checking that the text interpretation is not affected by my person, thus allowing for objectivity to be cast on the interpretation.

4.6 Conclusion

This chapter justifies the use of the qualitative research strategy through philosophical discussions and benefits to the research investigation. Multiple methods are advised in qualitative research and the chapter explored and discussed these methods (in-depth interviews with its associated elements and the SMS survey) and the processes involved in acquiring information through these methods. It goes on to discuss how the data was managed and analysed. The chapter presented the blue print that explains how this research objective could be achieved, but with much emphasis on the process aspects (that is the acquisition of information to answer questions). Chapters 2 and 3 provided

[23] The researcher was born in, Reading; grew up in Ghana; lived worked and schooled for a decade plus in England and has substantial child care in the UK experience.

the theoretical foundations upon which the research questions were set. The review of literature also fulfils research objectives 1, 2 and 3. The table below explains how the overall research objective/questions will be fulfilled and answered respectively (see table 4.3).The following chapter (five) will explore the study areas and the residential dwelling types studied within these case study areas.

Table 4.3 Research method of inquiry that fulfils or answers the objectives or questions

Research Objective: *to examine how different residential built forms affect positive social interaction.* **Research Question:** *do different residential built forms affect positive social interaction among residents differently*?	
Research Objective / Research question	**Method of inquiry**
1 To develop a conceptual model to explain the relationship between mental wellbeing and social interaction. What theories explain the relationships between social interaction and mental wellbeing?	Review of literature (chapter 2)
2 To explore some of the concepts and theories that explains the use of the residential built form. What concepts and theories explain how the residential built form is used?	Review of literature (chapters 3 and 5)
3 To examine social interaction and how it is linked with the built environment How is social interaction linked with the built environment?	Review of Literature (chapter 3) SMS survey, Micro-space drawings (chapter 7)
4 To assess how positive social interaction arises from space use within the different residential built form types How does positive social interaction arise from space use within the different residential built form types? (Answered through the following sub questions) *a) What influences meetings between residents? (chapter 6)* *b) Where do people meet to interact and which space is the friendliest interactional space? (chapter 7)* *c) Are the interactions that occur within these spaces positive? (chapter 8)*	In-depth interviews (with the micro-space drawings) SMS survey Data triangulation) (chapters 6, 7 and 8)
5 To make recommendations to planning practice and design standards to promote salutogenic residential environments What recommendations can be made to planning practice and design standards to promote salutogenic residential environments?	Data triangulation (Interviews, visual data and SMS survey data) (chapter 9)

Chapter 5 – Discussing the residential dwelling types and the case study areas

5.1 Introduction

Chapter 4 provided in-depth discussion on the research methods, which includes the case study as a strategy. This chapter therefore describes the case study areas and sets out to do so in two parts. The first examines the history of housing in Edinburgh which has led to the resultant housing stock and types in Edinburgh. The chapter will move on to explore the character and form of the different residential dwelling types in Edinburgh. This exploration of the built form character includes to an extent a look at the concepts and theories behind the production of the residential built form and associated features, which partially fulfils objective 2 or answers research question 2. The second part will examine and explore the case study areas which contain these different residential dwelling forms. Information has been provided about these areas in light of establishing the reasons behind selecting them.

5.2 The history of housing in Edinburgh

Edinburgh's origins are ancient dating back 1000 years and more. Edinburgh in the 1700's was a small city with a population of about 35,000 and was located on a single street from the Castle to Holyrood Palace. The population was cramped into dwellings of many storeys high (referred to as tenement) on this street with narrow lanes that branched from it hence giving it a fish bone layout. There were problems of overcrowding and hence the generated problem of sanitation though not intense at that stage. A point of interest is the fact that as at the first half of the 18th century, social intimacy was a crux of life in the city. The rich who lived in the first and second floors and the poor who lived in the higher floors lived in close proximity to each other and hence interacted as well as used the same facilities, for example public houses (Nenadic, 2011). Following this period, there was the stage of the Enlightenment in the 1800's, which saw to the development of the New Town hence resulting rapid in industrial growth in Edinburgh. This also swelled the population to about 138,000 by the early 1800's further increasing to 168,000 by the mid-1800s. With urbanisation and the increase in population that came with it, a social division emerged between the rich and

the poor as the rich could afford other spaces (including the New Town) and hence moved. The consequential effect was a breakdown of the face to face social interaction between classes as well as a segregation of the different classes (Nenadic, 2011 and Rodger, 2011).

There was also a further deterioration of spaces (the Old Town) occupied by the poor (working classes). Spaces previously occupied by the rich (the tenements) were subdivided and rented out to the growing population fuelling the overcrowding situation. There was also a lack of maintenance culture by the classes that occupied it causing further degradation of these areas occupied by the lower classes. As expressed by Henry Littlejohn, William T Gairdner and Edwin Chadwick, there were obvious health concerns which arose from the poor sanitary conditions generated from the overcrowding in these dwellings and their environs (Nenadic, 2011). The cost of providing facilities to help improve upon the poor sanitary conditions far outweighed the gains thus preventing the needed improvements (Rodger, 2011 p34). In all, there were sanitation and social life problems, both of which are strong pathways linking housing to health and wellbeing.

With all these occurring problems, 19th through to the 20th century saw the need for housing development in Edinburgh to cater for the need created by rapid industrialisation, urbanisation and population growth. Different dwellings other than tenements were built in an attempt to provide housing for the working class and eventually other classes. The need to create housing to solve the serious environmental and social problems resulted in the acquiring of land and the establishment of cooperatives and organisations which had the burden of solving the housing problem. One example is the Edinburgh Cooperative Building Limited (ECBC). The ECBC developed the colony style development for example which are located mainly to the east of the city with some pockets in the west. The Colonies are developments built in the later part of the 19th century to provide improved living accommodation for the working class.

The existing tenements dwelling style were not popular with the housing reformers due to its squalid character as seen in the old town area. Hence in a deliberate attempt to break away from this development type, plans were made to provide housing for the working class which afforded each dwelling their own front door and garden. In

character, colonies are and were built as double flats, upper and lower. The upper flat's front door is on the opposite side to the lower flat's front door and this allows each flat to have a front garden. The terminology 'Colony' has to do with the fact that the developments were proposed and built outside the city where it was available and affordable. This resulted in a sense of community being created by the new works that occupied these developments located outside the main city. Also, the development was embarked on by the ECBC, which had an emblem of the beehive hence suggesting that *'the term derives from the act of workers acting together for the common good, like bees'* in their colony (Spokes, undated).

Advancing on the discussion about growing housing development, other types of dwellings were established. Some included colony copycats, for example the 4-in-a-block dwelling style. The Industrial Cooperative Building Company developed dwellings with identical features to the colony developments (Rodger, 2011). These dwelling types are said to be well suited to family life (Rodger, 2011). Other dwelling types and designs were being considered especially during the New Town Planning era. English style dwellings, namely terraces and detached houses, also made their way into the houses being planned for by the likes of, for example James Craig and James Miller (Edwards and Jenkins, 2005). Details about each dwelling have been discussed further below in section 5.3). Within the discussions to follow this section, there is some coverage on the general history of each dwelling as well.

The rationale for designing and developing the houses in the 19th Century was more on a need basis. With emphasis on housing a growing population, focusing on welfare, reducing morbidity and poverty through making improvements to the domestic environments and contributing to the period of Enlightenment which Edinburgh City had found itself to be affiliated with. There is nothing to suggest that social sustainability was on the agenda although we see from the discussions in paragraphs above that some occupants of new builds like the colonies developed communities based on perhaps being associated with the novelty of housing type and not necessarily a community being formulated and facilitated by the design.

Where planning practices have been concerned some things have changed which also affected housing in Edinburgh in general. It can be argued though not exclusively that up to the last decade, planning has been more concerned with providing and designing

housing to cater for need in the name of affordability. The affordability of houses for the younger working population was being pushed for by planning within the UK. Following this has been the issue of environmental sustainability, which follows the United Nations commission to develop more sustainably. Therefore in regard to residential developments, planning policies have been pushing for greener ways to present developments with much emphasis carbon foot print reduction. In recent years, policy documents push for sustainable designs in housing developments that will boost social sustainability, but there is vagueness about it (refer to discussions in chapter 1 section 1.2 and section 5.3 below). The policies are not explicit about how housing design should encourage sociability.

The evolution of housing development resulted in the production of the different housing types in Edinburgh. As we have looked at the past, what is the situation with the present? What are the rationale and the guidance behind housing provision? It is important to look at the current situation with housing development in Scotland and Edinburgh now. The next section will look at housing development in Scotland. Unlike in times past, housing development focuses now more on neighbourhoods and communities with the aim of enhancing the community spirit rather than concentrating on standalone developments.

5.3 Planning expectations for residential areas in Scotland today

Housing is the largest urban land use; as a result there is the pressure to get things done right, especially in the area of developing residential areas. The Scottish Government advocates for successful residential areas by pushing for these five factors: layout, landscape, scale and mix, details and materials and maintenance. It is acknowledged that no housing area development will have all these five characteristics as listed above, nevertheless, the art of planning a place is to make the most of opportunities and also consider possibilities that will make the place successful (Scottish Executive, 2003). Of the five listed, *layout and scale and mix* are perhaps the most applicable to the research in terms of understanding how the residential built form environment influenced social interactions.

Layout considers the natural site features and its relationships to surrounding natural and manmade features. In doing so, it creates a functioning system and network of houses and surrounding features like streets, landmarks, buildings and many more (GLC, 1978). Chapter 3 talks about how housing layout influences social life and this is very much the case. This is reflected in this statement by the Scottish Executive (2003) in Planning Advisory Note 67 (PAN 67, p 16), that, *'the layout of a housing development determines the character of streets and public spaces and influences pattern of movement. It is also the key to other important issues such as security and privacy'*. The security and privacy can be as a result of, for example, the way doors and windows are positioned that allows for streets to be active and safe places to be and use. There are even further benefits from effective layout such as energy efficiency. This can be achieved for example when buildings are positioned to face positions that benefit from adequate sunshine or minimize temperature in homes. These even have a way of influencing social interactions between neighbours at close proximity.

Scale and mix looks at a mix of dwelling types and also sizes as well as land uses. This also takes into consideration layout which maximises the potential for maximum space use for a variety of things by residents (Scottish Government, 2014b). An example could be taking advantage of sun paths to ensure extended use periods of gardens for things like social events etc. to take advantage of the sun light. According to PAN 67 'scale and mix' is important because developing a different mix of housing types as well as use is important to determining how a place will be like. Using the economic associations that go with housing types, having a mix of housing in a place increases the social mix of classes in a place and this builds integration whilst avoiding segregation that is associated with homogenous environments. See discussions in section 4.2.3.

With the characteristics of layout and social mix among others, planning as a practice in Scotland aims to develop residential areas that are successful in terms of bringing people together. Therefore, the next section will explore issues on layouts and scale and mix by looking at individual dwellings and the rationale and motive behind their developments as well as how they might influence sociability within the home-patch.

The sections below provide an overview of the different types of housing and stock levels in Edinburgh and Scotland and a character appraisal of each dwelling type.

5.4 Housing stock in Scotland and Edinburgh

The Scottish House Condition Survey notes seven different dwelling types in Scotland: detached, semi-detached, terraced, tenements, four-in-a-block, tower slab and conversion flats. The detached, semi-detached, terraced dwelling types are classified as houses and the tenements, four-in-a-block, tower slab and conversion flats are classified as flat types (SHCS, 2002). This is because the latter group have dwellings that are situated within a common block and as such tend to have communal facilities. The seven dwelling types can be dated back to the 1900's, with each era introducing a subtle change to the previous, though some dwelling types are more prevalent in certain periods than others (SHCS, 2002). The figure below shows the different dwelling types in Scotland within different eras[24]. Other flats here mean dwellings made up of four in a block, tower slabs and flats conversions (SHCS, 2011).

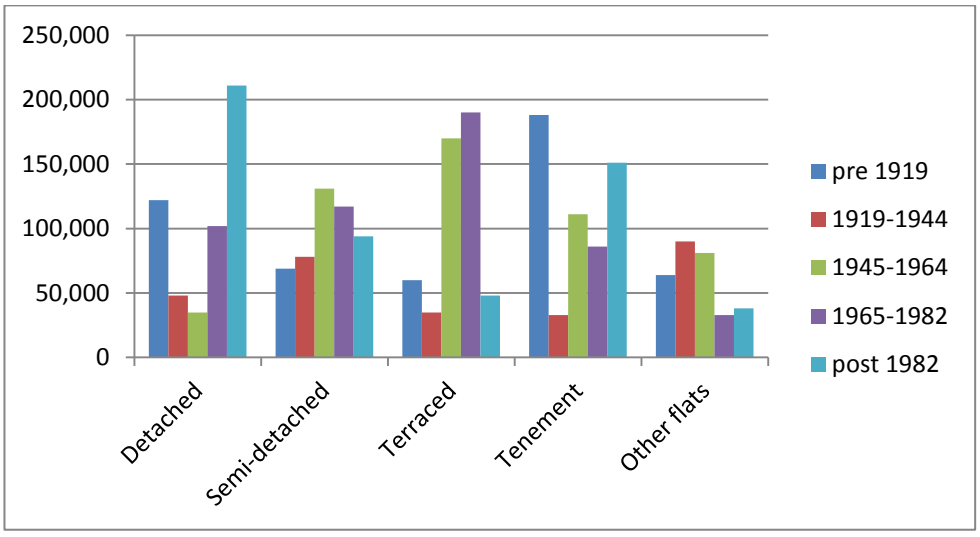


Figure 5.1 Scotland dwelling types by age Source: Adapted from SHCS, 2012

[24] About a fifth of the dwelling stock in Scotland are over 90 years old; a third are over 60 with the few left being about 30 years old (+ and -) The majority of dwellings in Scotland are located in urban areas (SHCS, 2002, 2011, 2012).

In Edinburgh, the figure below shows the percentages of the seven different dwelling stocks mentioned. The diagram below shows percentages of the different dwelling stock in Edinburgh. Flats or apartments make up the most in Edinburgh and it is important to note that flats or apartments comprise of tower blocks, tenement and four in a block dwelling types. Out of the 60% apportioned to flats, tenements are said to consist of 45% of all housing in Edinburgh, and out of the 45%, 25% are pre-1919 stone built properties (Change Works, 2012) meaning other flats i.e. 4-in-a-block and high rises consist of the remaining 15%.

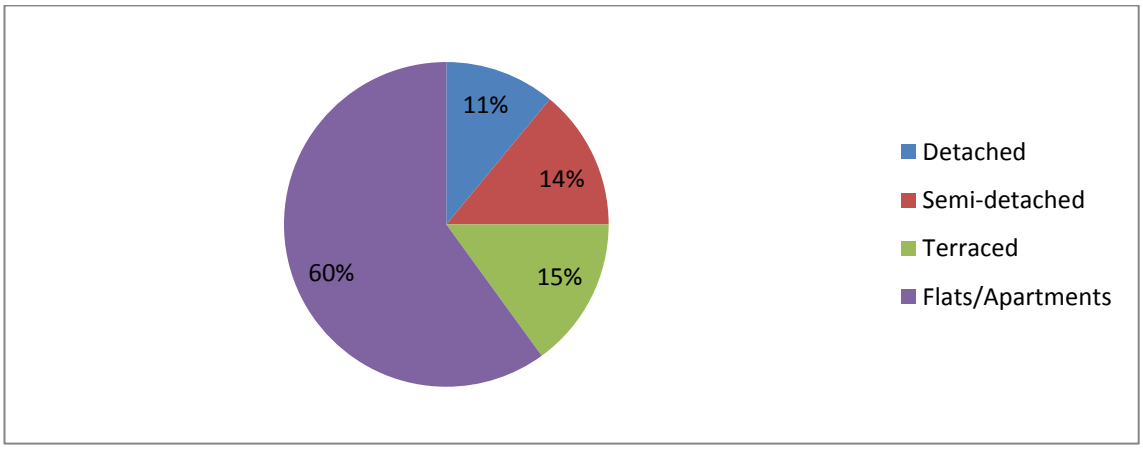


Figure 5.2 – The profile of Edinburgh's housing stock. Source: Information from table 2.5 pp 36 - (Jenks et al., 2010)

5.5 The dwelling types in Edinburgh

This section describes the different dwelling types in Edinburgh, however in this study four dwelling types were examined in detail, i.e. the semi-detached, terrace, 4-in-a-block and tenements. Because these are associated with the types of neighbourhood selected for this study (refer to discussions in section 4.22). The next section discusses these four in a bit more detail. The paragraphs below will briefly describe the remaining three which are the detached, the tower slab and the conversion flats.

A detached dwelling is not physically attached to another dwelling; as a result it is 'set in its own grounds' (Larkham and Jones, 1991). This housing type was and is still associated with the upper social classes.

Tower/slab is a multi-storey or a tower block with five or more levels (SHCS, 2002). The alternative to the towerslab is what is typically and popularly known as the flat, also called an apartment (an American term, but is currently used more generally in Britain), which is a dwelling situated within a block which has other similar dwellings. The other similar dwellings could be above or below the flat or apartment. It can be several storeys high (counting 10 for some types but can be substantially more) or some few stories high (Larkham and Jones, 1991; Cowan, 2005). Flats are also referred to as block housing or high rise, tower blocks or point blocks. This is because they stand out (Larkham and Jones, 1991; Biddulph, 2007). They have common entrances and areas shared and used among the individual dwellings within the block.

Conversion flats are as a result of a conversion of a former non-residential development (for example a ware house or office development) into a residential development (SHCS, 2002).

5.5.1 The selected dwellings – form and character to be investigated

In examining the dwelling types, the focus has been on external spaces around the dwelling. [25] Allowing for a radius within reason around the dwelling to be examined enabled certain spaces around dwellings like the tenements, i.e. the staircases which are internal to the flat building, to be looked at. It is not possible to give a definite radius (a boundary) to examine as the designs of different dwelling types vary. This reflects a point made by Yancey (1972) that finding a boundary around the dwelling to examine social life is often difficult. The home-patch is the focus (refer to figure 3.5). Internal spaces are only included where necessary.

It was deemed important to discuss the densities for each of the dwellings. It seems like a useful aid to understanding space dimensions and availability for each dwelling. The *net residential density* (which refers to the land area covered by the residential dwelling

[25] A dwelling is also the *house* and this is *'a building for human habitation, especially one that consists of a ground floor and one or more upper storeys'* (Cowan 2005). As a self-contained unit for human habitation, using the term dwelling allows for the terminology 'flat' (also a self-contained unit of accommodation which is part of a building) to be subsumed in the use of this term dwelling.

including the outdoor spaces i.e. gardens, driveways, and other spaces that are physically part of the development (TCPA, 2003)) was used. This is because it describes and reflects the spatial scale being studied. The selected dwellings can be described as falling within a density calculation of 25 to 90 dwellings per hectare. These figures have been derived from neighbourhood sampling assessment made on '200m by 200m samples from a range of typical residential developments' by Barton et al., (2010). These figures may be expressed as typical rather than absolute figures. This means strict calculations were not followed but calculations were made based on an extrapolation from literature regarding housing densities (Barton et al., 2010).

The physical characteristics of the different residential dwellings and their associated design, layout and patterns have been assessed and objectively identified through the analysis undertaken by existing work on urban form character (Newman, 1972; Gehl, 1987; Larkham and Jones, 1991; Cowan, 2005; Jenkins, 2005; Schittch, 2006; Biddulph, 2007 Bramley et al., 2009; Bramley and Power, 2009 Jenks et al., 2010; Rodgers, 2011). An attempt has been made to discuss these dwellings in some level of detail to appreciate their makeup and how interactions might happen around them. It should be noted however that the majority of authors of this work on the residential form did cover England with a minority covering the built form characteristics in Scotland. Where there are reasonable similarities, these have been adopted and used and also some of the accounts have been given through personal observations made.

The study did not look at the different dwelling types across the different eras as it would have been complex and unfeasible to try and pick a particular era to study. The fact that the differences in the dwellings were not major apart from the material used and facades meant it was realistic to study the dwellings as they were irrespective of the era in which they were produced. The principle governing the differences in the different dwellings was the same across the periods. An example is, semi-detached and terraced dwellings having features such as a back garden and a front garden whilst the semi-detached will have the added feature of a drive. Also, the flats had gardens which at times might be shared or personal allocated spaces. Where noticeable differences were observed as was noticed with the tenement dwellings, this was acknowledged.

A look at the selected four

The semi-detached dwelling

The semi-detached dwelling is described as two houses that are attached by a 'party wall' but it is separated from other buildings (Larkham and Jones, 1991), or a house attached to another dwelling on one side, hence the pair of dwellings are detached from any other dwelling (Cowan, 2005; SCHS, 2002). They are often 2 storeys as can be seen from the pictures, but they can be more or even less.

Figure 5.3 Images of a semi-detached dwelling in Edinburgh

This building type became the norm during the Victorian era when suburban villas were used to house lower middle class, hence the further division though giving the impression of a large detached house (Larkham and Jones, 1991). During the interwar periods and after World War II they became popular when British cities expanded and local authorities and developers patronised this design for house production (Larkham and Jones; SCHS, 2002). They are known to be a common form of development in suburban areas in England (Cowan, 2005) and by some accounts the most popular form of development in England. They are the middle ground between using land to provide for the cheaper terraced housing and using land to provide expensive detached housing (Cowan, 2005).

Features and spaces

The fact that they are 'pairs of houses' in one block, gives them certain advantages over other house forms, for example in terms of accessing spaces around the dwelling. They allow an unhindered access to the back of the dwelling from the front because of the access round the sides of the dwelling and also through the house. Access to outer areas is a lot more direct and easy than with other dwelling types such as the tenement and 4-in-a-block dwellings.

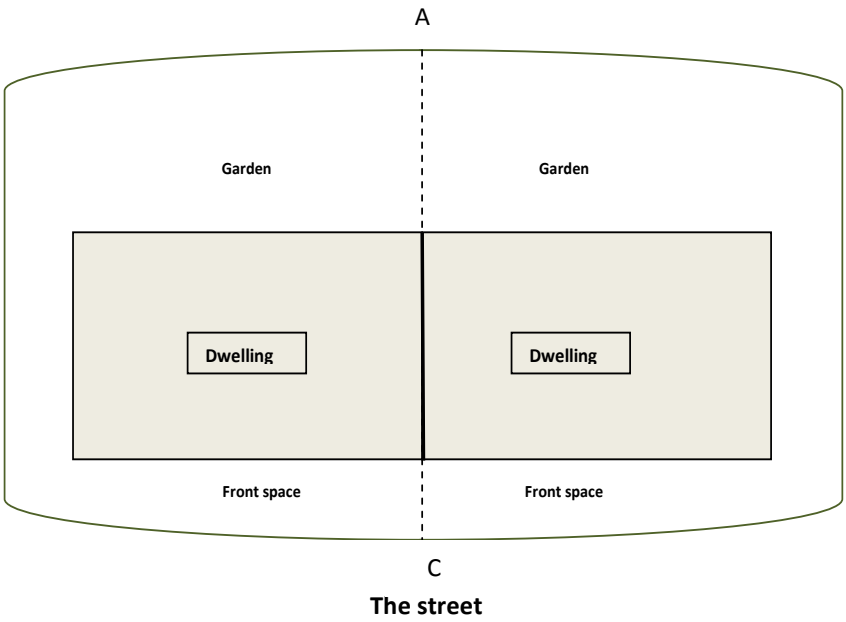


Figure 5.4 A bird's eye diagram of a semi-detached dwelling

The typical density for the semi-detached dwelling is 25-30 dwellings per hectare according to Barton et al. (2010) however, this can vary as noted from observation. The variation affects the type of spaces available to the dwelling, which in turn affects how the spaces are used for social interactions. The semi-detached dwelling has a good amount of private space[26] and this is in the form of the internal space, the back garden and front spaces like a drive way, garden or paved space. With regards to the semi-private spaces[27] these spaces are only used by members of the public when there is the need to, but in essence this space is owned by the occupant or owner of the dwelling. Examples are the fronts of the dwelling. These spaces may be used for playing by

[26] The private space is used exclusively by the occupier or owners of the dwelling and they have complete control over the privacy and security these spaces afford (Newman, 1972; Biddulph, 2007).

[27] Semi-private spaces 'tend to be private and which a member of the general public will only enter if they have reason to' (Biddulph, 2007 p44).

children for example. From this space there is then the public space (the street) which is the street or road and as such can be used by everybody.

Terrace dwelling

Terrace dwelling is a house forming part of a continuous row of houses ranging from three houses to many (Larkham and Jones, 1991), (SCHS, 2002). Historically the terraced dwellings were in a back-to-back in position, a feature common in inner city areas but not the particular case in Scotland. There are also blind backs and tunnel backs (Larkham and Jones, 1991). This dwelling type again is usually 2 or 3 storeys.

Figure 5.5 Images of a terraced dwelling in Edinburgh

Terrace dwelling development was popular in the 19th century and provided houses for the working class following the improvement of terraced dwellings as per the public health and housing regulation on housing standards. Terraced dwellings became predominantly popular after World War II particularly 1960's (SCHS, 2002).

Features and spaces

This dwelling type is associated with being within or at the end of a row of houses and as such, the end dwelling does have more access to spaces at the back and the front of the dwellings than those in the middle of the row. Those in the middle will have mainly the access into the dwelling and back. In some regard the end terraces are technically regarded as being semi-detached (Larkham and Jones, 1991). Each dwelling has its individual garden and front spaces as shown below.

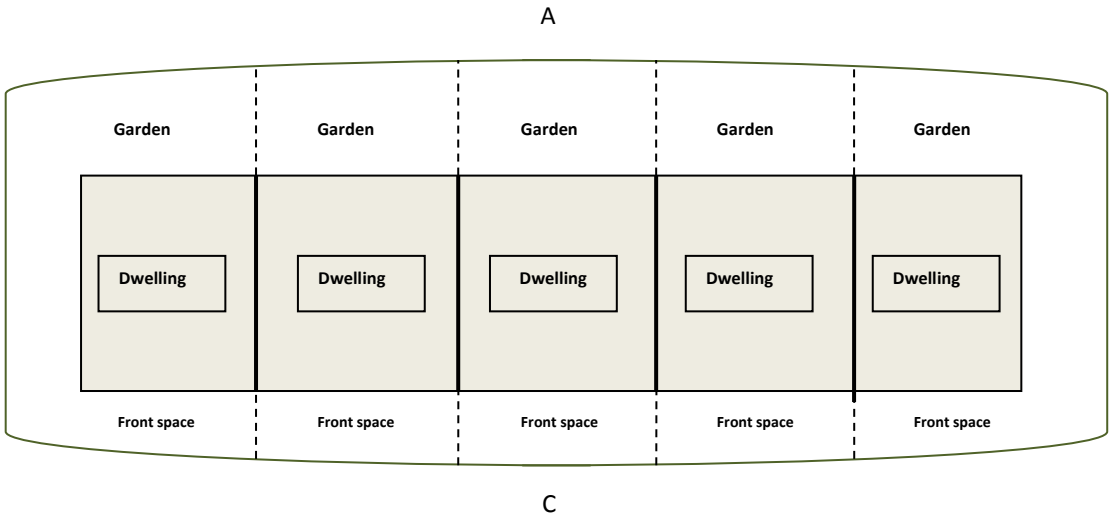


Figure 5.6 - A bird's eye diagram of the terraced dwelling

The typical density for the terraced dwelling is 40-90 dph (Barton et al, 2010) *and* the type of spaces available to the dwelling influences how it is used by the occupants of the dwellings as well as outsiders. Once again, as with the semi-detached dwelling, the terraced dwelling has a good amount of private space and this is in form of the internal space, the back garden and front spaces which can be a garden or paved space, but not usually a drive. This assessment was based on observation.

The tenement dwelling

The tenement is a block with apartments, usually at several storeys high (Larkham and Jones, 1991). In another account the tenement is described as a building containing a number of flats (Cowan 2005). According to SHCS (2002) in Scotland they are known not to be over four storeys high, from observation, they are known to be higher than this in some areas. They are usually aligned to be parallel to the street hence located on main

streets. From personal observation of tenements within Edinburgh, some tenements have large communal gardens whilst others do not have. The differences can be seen in the photographs a and b below. Access is through a ground floor main door at the front and also at the back. The access leads to a common staircase, thus serving the whole block. The common access sometimes tends to have doors, especially those located to the east of Edinburgh whilst those to the west of Edinburgh are without doors (Edward and Jenkins, 2005). This is not always typically the case, there are some exceptions. For example in Currie, which is located to the west of the city, the tenement flats have main secured (with a security system), whilst the tenements in Restalrig usually have an unsecured access door (meaning no security systems). These dwelling types are said to be common to Europe but not England (Larkham and Jones, 1991) (SHCS, 2002).

Figure 5.7 Images of a tenement dwelling

The dwelling type is known to have been built from the 16th century in Scotland up to the 1900s (1919, and then post World War II 1945-1967) and is common in Scotland (Cowan 2005, SCHS, 2002). The population of Edinburgh in the 1700[28] was confined to tenement dwellings. Tenements are described as *'the basic form of accommodation for urban Scots'* (Rodger, 2011, p 34) and are seen as 'an almost continuous ring' in Edinburgh (Edward and Jenkins, 2005, p 103). The term tenement is sometimes known to be derogatory because it refers to downgrading a space to other spaces to allow for multiple occupation (Cowan 2005). This was seen as a solution to overcrowding problems, particularly in Scotland in the 1800. The consequential effect was a breakdown of the face to face social interaction between classes as well as a segregation of the different classes (Rodger, 2011). However, prior to the middle part of the 1800's in Scotland, tenements were occupied by well-to-do tenants hence presenting an elegant space to live in (Edward and Jenkins, 2005). It is still the case for some parts of Edinburgh. During the 18th century, the rich lived on the first and second floors and the poor lived on the higher floors. Both classes are said to have interacted well with each other within the tenement (Rodger, 2011). In relation to this some tenement flats have main door flats which have access directly from the street. This could perhaps explain why some ground floor terraces were designed to have their own front doors, as an added feature of being an affluent space. These types of tenements are located in 'all classes of property in Edinburgh' as they are known to attract a relative premium due to them being private (Edward and Jenkins, 2005).

Features/spaces

As per the other dwellings, there are also front and back spaces serving the block. The back spaces are often shared among the flats or there are individual allocations of land per flat. However the space is open as compared to that of the semi-detached and terraced dwellings. A garden might be private in ownership but very much overlooked or even an access way to another. The designs of some tenement dwelling are presented in a single file of dwelling blocks or even in an L shaped pattern. The principle design showing the position of the back gardens and front spaces have been shown below and other patterns of single dwellings have been shown below (see figure 5.10). Others are in a perimeter block or enclosed design (Figure 5.11).

[28] Edinburgh in the 1700 was small city with a population of about 35,000 and was located on a single street from the Castle to Holyrood Palace (Rodger, 2011).

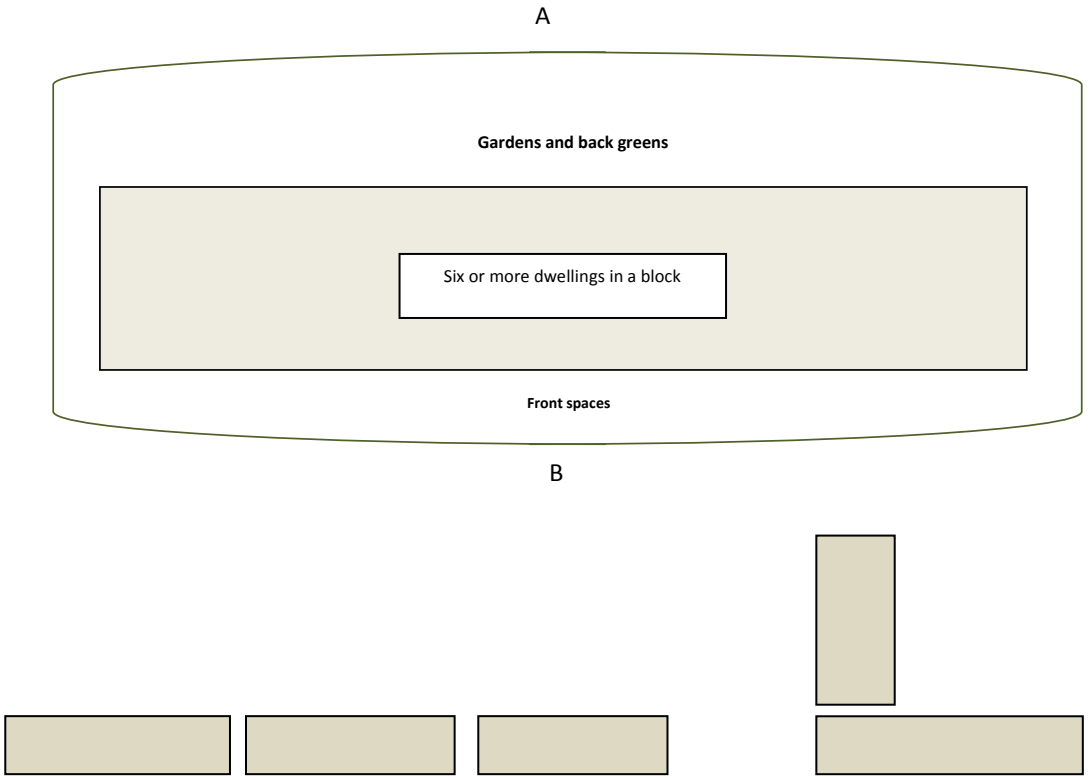


Figure 5.8 A bird's eye diagram of the tenement dwelling

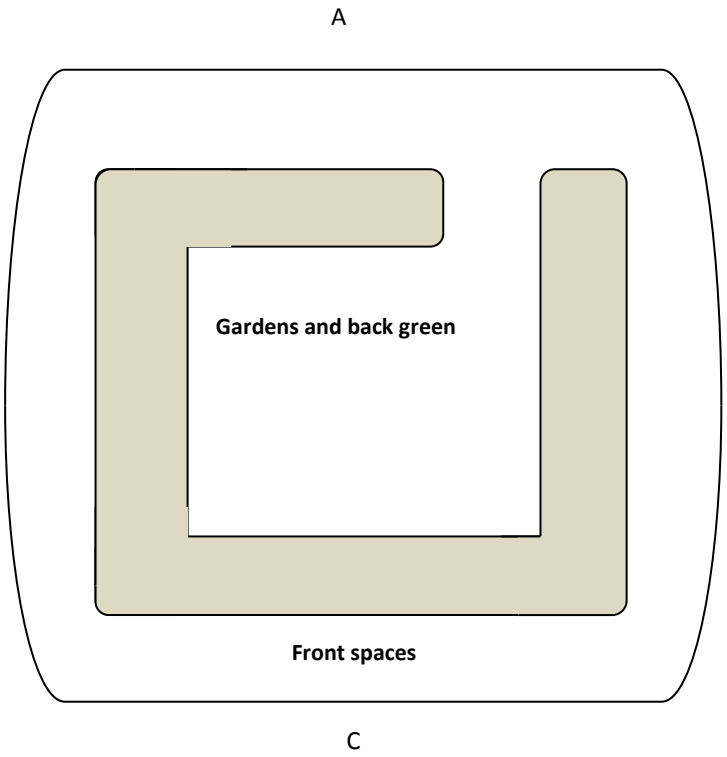


Figure 5.9 A bird's eye diagram of the tenement dwelling (enclosed patterns)

The typical density for the tenement dwelling is 65-90 dph (Barton et al, 2010) *and* the type of outside spaces available to the dwelling influences how it is used. The tenement dwelling have less private space as this is mainly the inside space of the private flats. Newman (1972) states that people living in dwellings such as the tenement type, have less proprietorship of spaces outside to the main private dwelling. Territoriality is very limited. Even spaces immediately outside of the dwelling (the private flat) are not considered as personal spaces. Such spaces are not used for social activities such as will be carried out in a front garden of a semi-detached or terraced dwelling because the nature of the spaces does not allow it. It may occasionally serve as a storage space; however this depends on where the flat and hence immediate outside space is located. For example, top floor flats may use the space located immediately outside the flat to store/keep bulky items. This is because the space is not a thoroughfare. The space typologies associated with the tenement dwelling are as below. The majority of the spaces attached to the tenement dwelling may be regarded as semi-private due to the fact that they are shared. For example, the back gardens in the tenements are not solely accessible to a householder as is the case of the other dwelling types (semi-detached, terrace) but to other households within the tenement block. It may even be that the garden is a private garden (owned by a household or dweller in the tenements); however other householders will have access to it for example by passing through it to their garden or even overlooking it from their private dwelling hence these spaces being semi-private. Also, access to the front spaces though very much open to the public and anyone, is still limited to the dwellers of the tenement and can therefore not be classified as semi-public, but rather semi-private.

The 4-in-a-block dwelling

This dwelling type can be a pair of houses (semi-detached) or a row (terrace) of housing comprising of one flat on each floor where access is gained through separate doors. Each flat has an independent access. Hence flats located on the upper floors may have their own external or internal stair (Larkham and Jones, 1991; SHCS, 2002; Edward and Jenkins, 2005). This dwelling type has been referred to as a flatted terrace, perhaps when they are in the form of terraces (Larkham and Jones, 1991) and in some instances they are referred to as cottage flats (Edward and Jenkins, 2005) or lower and upper villas. This is perhaps when they take the form of paired houses meaning that in every pair there are four dwellings within the block of a house. In which case, flatted terraces,

may not necessarily be 4-in-a-block, i.e. four dwelling located within a block as the name suggest. It could be more than that in a block. However from observation, it was noted that, there is a kind of pairing system with row of houses as shown in figure 5.16 indicating one block containing flats being separated from (though attached to) another block containing four flats. This design is said to be as a result of the four in a block dwelling being an evolution of the tenement (burgh practice) dwelling. Hence it had only two storeys with an attic and with open stairs which had a great resemblance to English terraced dwellings (Edward and Jenkins, 2005). Because the research was carried out in Scotland, the name used to classify such dwelling types are 4-in-a-block, hence this term being used for all types identified as such.

Figure 5.10 Typical 4-in-a-block dwelling also called upper and lower villas or Flatted Terrace or Cottage Flats (depending on the layout)

The early examples of 4-in-a block dwellings were built by the Industrial Cooperative Building Company (ICBC) mainly during the inter war periods (SCHS, 2002). These are popular in Scotland hence Edinburgh. They were residential accommodation provided for the working class to solve the housing problem in Edinburgh in the late 1800s to the early 1900s. The design (4-in-a block) was inspired by the colonies design as produced by the Edinburgh Cooperative Building Company Limited (ECBC). See information provided in section 5.2. Some sub-areas within the main study area of Restalrig contain the copycat developments produced by the Industrial Cooperative Building Company (Rodger, 2011). These dwelling types are said to be well suited to family life (Rodger, 2011).

Features and spaces

Researcher observation reveals that there are variations among the 4-in-a-blcok dwellings. Variations include access to the top or bottom flats, the number of accesses serving the whole block and also the configuration of private gardens. The drawings below (in figures 5.11 and 5.12) show these variations. It should be noted that these diagrams have been provided based on what has been personally observed to be the case with 4-in-a-block dwellings in Edinburgh and hence might not be representative of this building type. There might be others of different space arrangements in Edinburgh which has not been captured in this study.

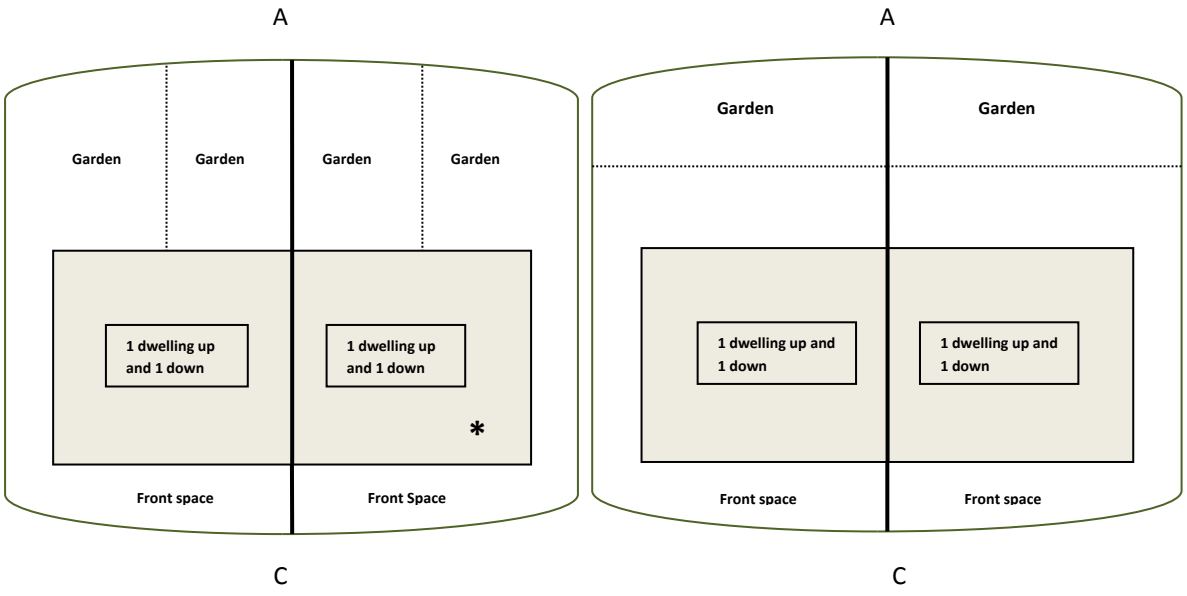
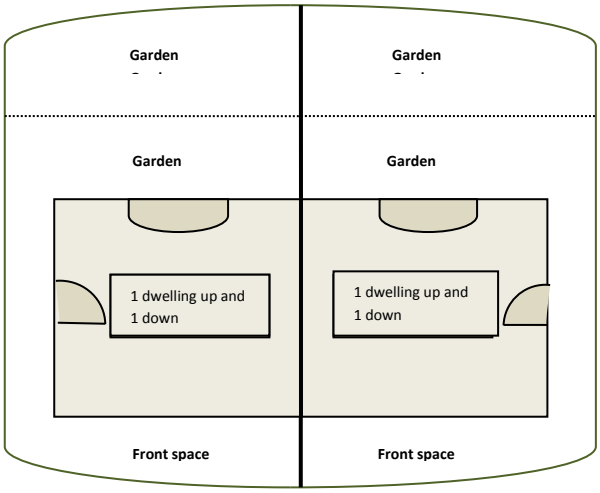
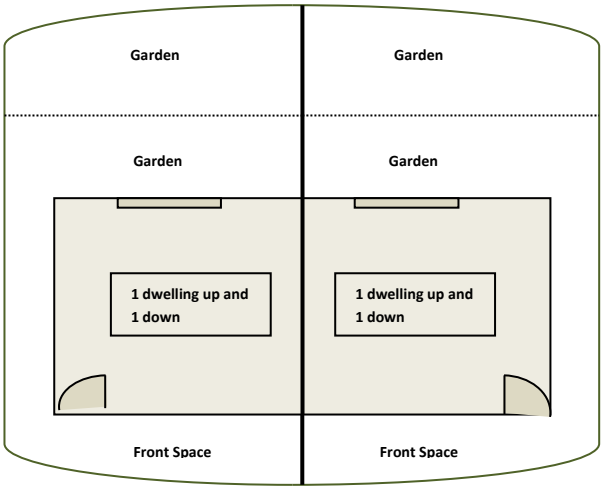


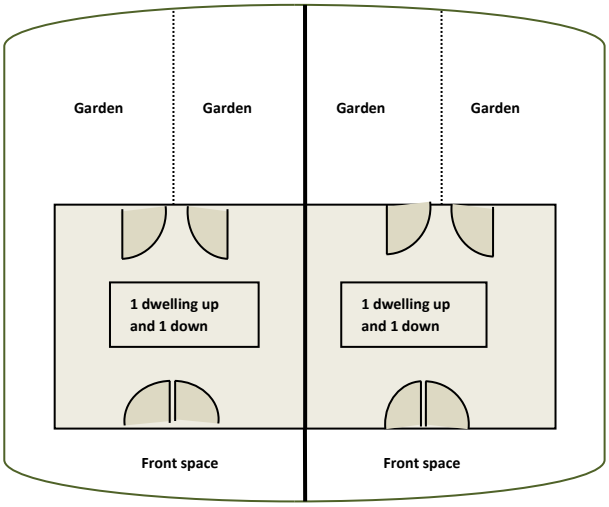
Figure 5.11 A bird's eye diagram of the 4-in-a-block dwelling showing the garden space configuration * One dwelling is on top of another. This applies to all the 4-in-a-block drawings.



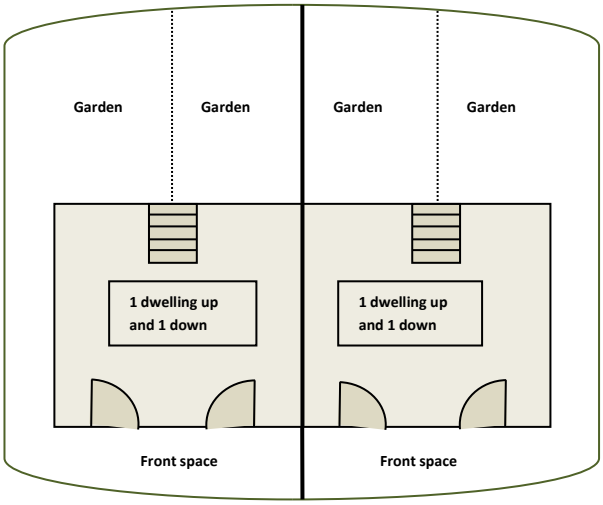
Ground floor access for cottage flats



First floor access for cottage flats



Ground floor access for flatted terrace



First floor access for flatted terrace

For the 4-in-a-block back gardens, the gardens are for either the top or the bottom flat, it doesn't matter which garden it is but each flat owns a garden.

Key

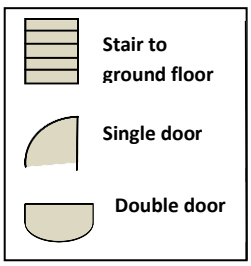


Figure 5.12 Variation in access for cottage flats and flatted terrace

The typical density for the four in a block dwelling is 45 dph (Barton et al, 2010). As discussed spaces available to the dwelling (and dwellers) and access to these spaces vary for the different types of the 4-in-a-block dwelling. This influences how the spaces are used by the occupants of the dwellings as well as outsiders for social interaction. With regards to the types of spaces, from observation and also from the analysis of participant interviews, it is perceived that there is less open space than in the semi-detached and terraced dwellings. This is because top floor dwellings for example, do not have the continuity of an external space as with the ground floor flat. Hence for top floor flats the majority of the space is private. To extend this space the dwellers have to 'travel' vertically to use outside private spaces. For the ground floor flats it could be argued that there is some continuity, however as with the tenements, the gardens may be overlooked and may feel less private. As per the diagram below, it can be said that there are equal proportions of private and semi-private spaces with the remainder being public spaces.

One type of space that was not examined in this research was the semi-public space. The simply reason is because it cannot be associated with the space types being explored within the home patch or spaces around the home. Semi-public space is one where some degree of control is exerted over when it is made accessible to the public (Biddulph, 2007). 'Control' however refers most often to institutional systems. So the examples given of semi-public spaces are shopping malls, public parks and leisure centres (Cowan, 2005; Biddulph, 2007). In the essence of talking about the residential environments semi-public spaces are not easy to locate. One might argue that neighbourhood parks could have the semi-public space status, however they are public spaces (CABE, undated). This will make sense because should such restrictions be placed on the use of parks, it will defeat the purpose of making them beneficial to residents at large (Wooley, 2003 and CABE, undated).

The sections above have described the different dwelling types. However, it will be of benefit to also look at some socio-demographic statistics concerning the people that live in these dwellings. The section below will briefly look at tenure and household type in Edinburgh.

5.5.2 Socio-demographic observations about household and tenure in Edinburgh

Households in Edinburgh

In the City of Edinburgh, households with children (one and more) are 47,357 out of the total number of households, which is 224,875 (General Register for Scotland, 2014). Households with more than 2 persons are fewer on the whole (National Records of Scotland, 2014). The charts below in figures 5.13 show these figures for Scotland and Edinburgh. The figure shows a decrease of 3+ person household (possibly family with children type of households) over the years.

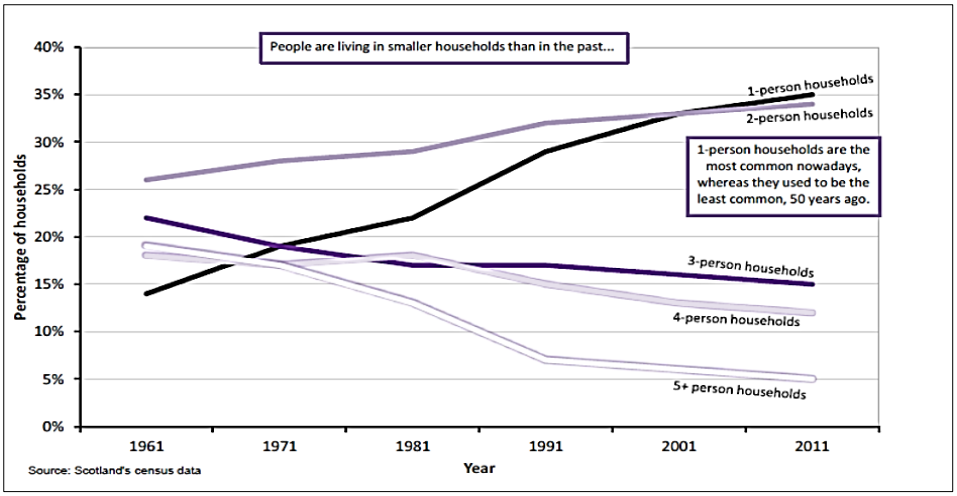


Figure 5.13 Household projections over the years. Source: General Register for Scotland (2014)

Tenure in Edinburgh

In Edinburgh the statistic shows that people who own their homes, i.e. owned outright and owned with a mortgage or loan, or shared ownership, are more compared to people who rent their homes. See figure 5.14, Statistics from both study areas reflect this fact (refer to section 5.6.1 and 5.6.2).

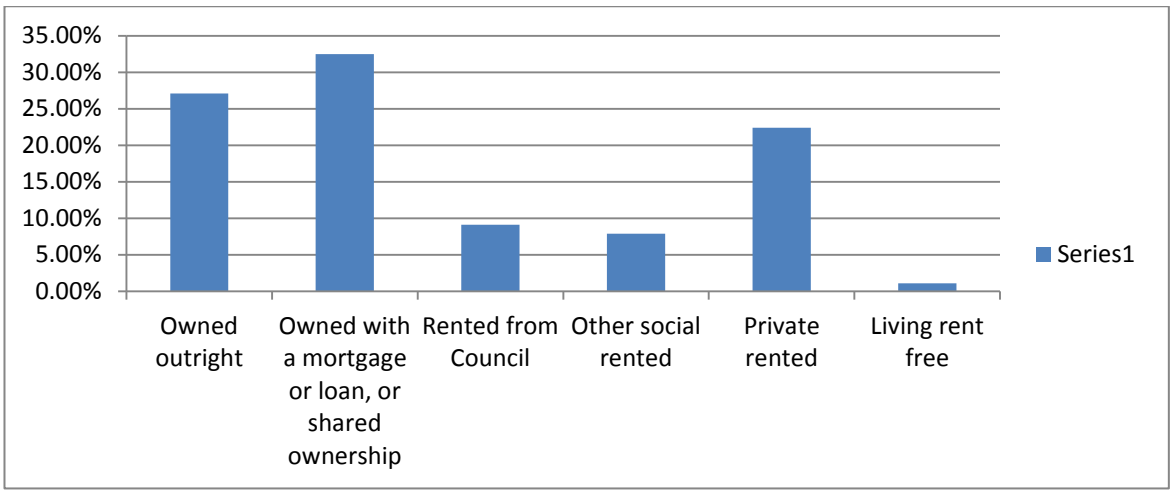


Figure 5.14 Tenure situation in Edinburgh adapted from National Records of Scotland, 2013.

It has been mentioned in chapter 4, section 4.2.3, that an area containing all the case study dwelling types had to be selected. By doing so, it means that the demographic group must live in all the dwelling types. The selected demographic group which can be described as households with children occupy *all* dwelling types categorised as houses or flats in Scotland, as shown below in figure 5.15.

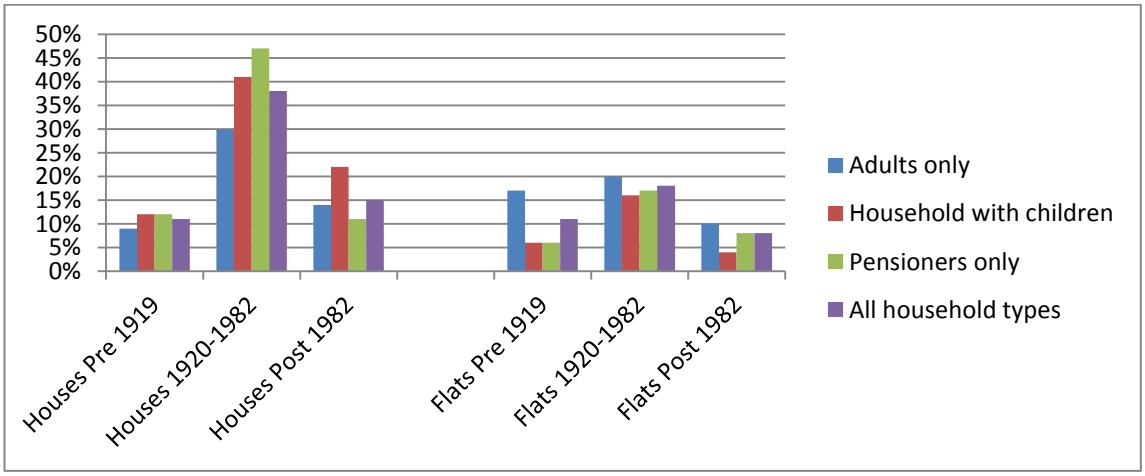


Figure 5.15 The percentage figures on the left show the proportion of household type. Adapted from SHCS, 2012

This chapter examined the history of housing in Edinburgh as well as explored the characteristics of the various residential dwelling types in Edinburgh. The first part also briefly looked at some statistics concerning households and tenure in Edinburgh. The second part of the chapter will examine and explore the case study areas which contain these different residential dwelling forms. Section 5.6 looks at the case study areas and their character.

5.6 A look at the case study areas

Currie and Restalrig are residential suburbs located at either end of Edinburgh City. The part of the chapter examines both areas by looking at the history, physical character and socio-cultural characteristics.

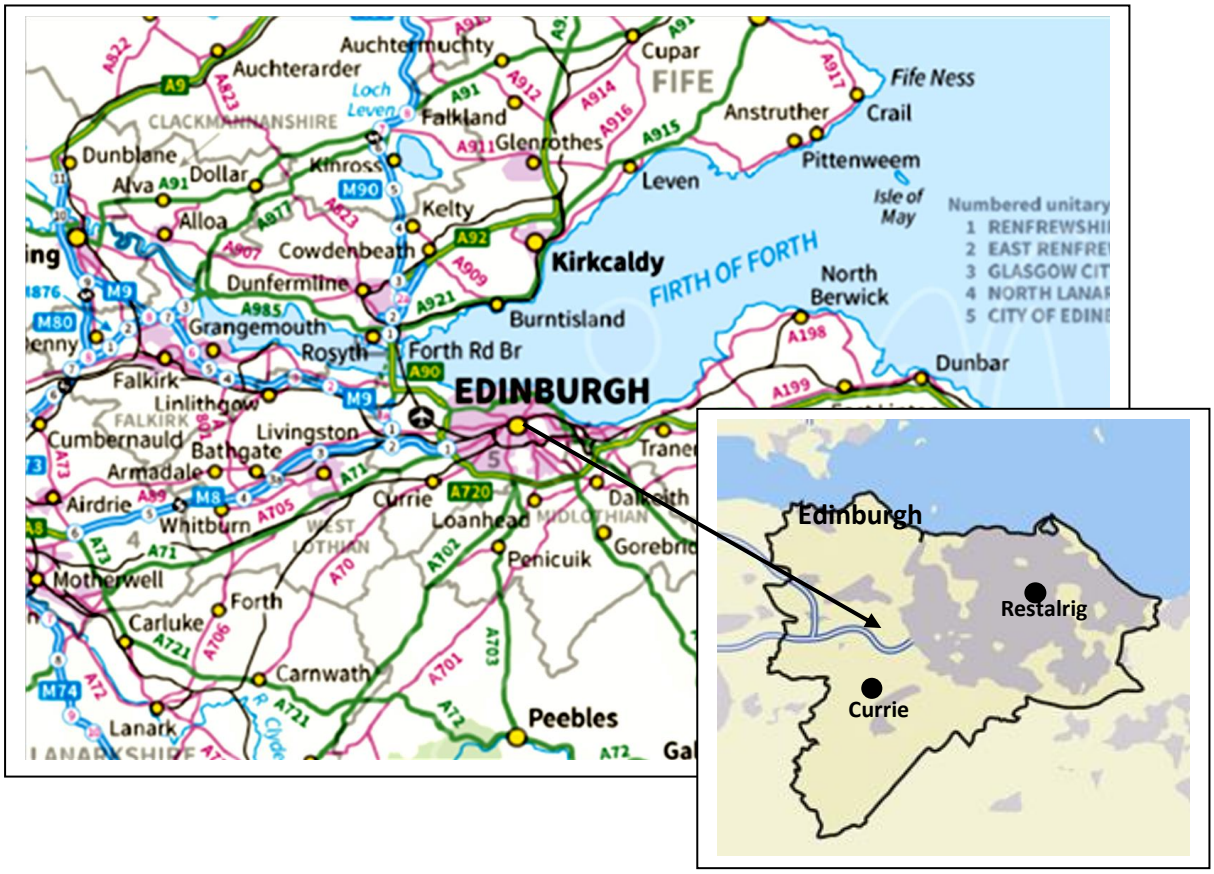


Figure 5.16 Map showing the location two study areas (Restalrig and Currie), Source: Digi Map and Researcher

5.6.1 Currie

Location

Currie is a residential suburban area located to the south west of Edinburgh City. It is sandwiched by Juniper Green and Balerno, which can also be described as suburban areas. It is also located between two main arterial roads which are the A70, also called the Lanark Road, and also the A71, which is to its north (Edinburgh Guide, 1998). Currie is situated on a ridge running along the Water of Leith valley. This is shown in the maps below. The water of Leith runs to the south (along Lanark Road) of Currie.

The maps below show the aerial view of Currie and the annotated map shows the area within Currie where all of the participants lived.

Figure 5.17 An aerial view of Currie, Source: Google Maps

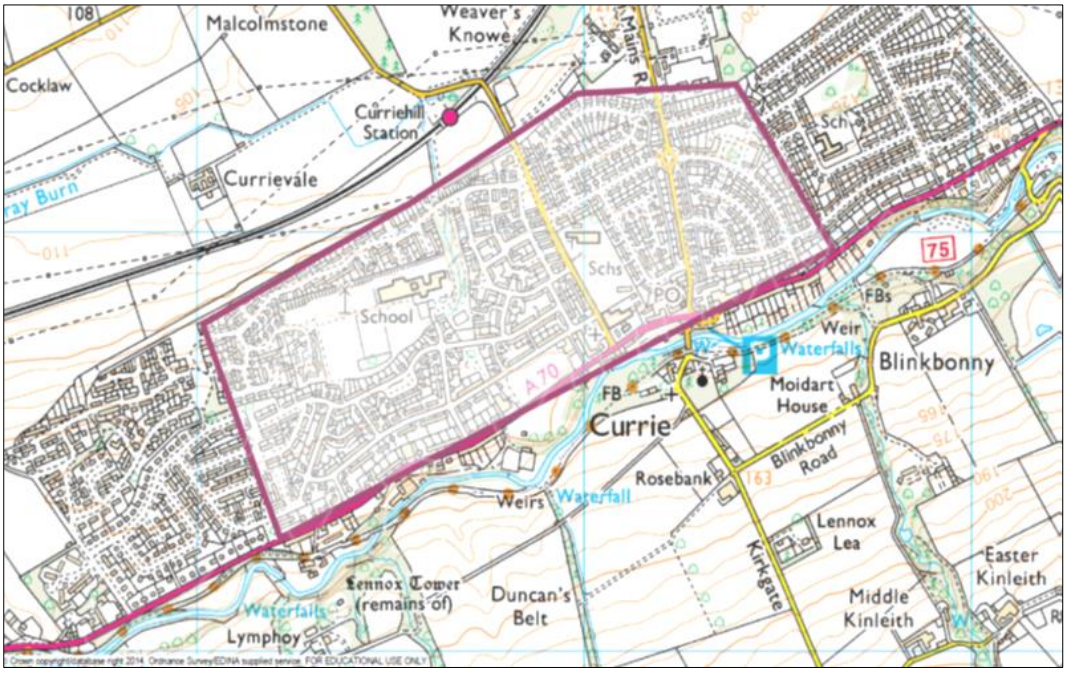


Figure 5.18 Annotated map showing the area where participants live within the wider area of Currie, Source: Edina Digi Maps

Some history

The history of the area is set out here to give an appreciation of the area and its attractions to date. The name Currie might have been derived from the Latin word Coria, meaning a meeting place, or from the Gaelic word Curagh, meaning boggy. A settlement in Currie might have been possible in the Bronze Age (1800 BC) to 500 BC around the Kinleith Mill and Blinkbonny respectively. From the 1600s to the 1700s, Currie grew as a community which centred around self-contained farming. The industrial revolution attracted the attention of the workforce to live in which grew the community. The community is said to have relied on social events for leisure and relaxation (CCC. undated).

The physical and social context

Obviously since it was chosen, Currie contains all the residential dwelling types in Scotland, with the semi-detached being slightly more than the others. The housing development in Currie occurred between 1920 and 1960. The former years saw private housing development along the Lanark Road (also observed from site observations). In the later years of 1950 to 1960 a mix of public and private housing development spread across Currie and can be seen in the range of development that exists within the area.

Currie has a good range of basic amenities such as local shops, a post office, a library, medical facilities, play parks, transportation routes including a train line and station and other centres for leisure activities. It also has nurseries or baby and toddler groups, namely Riccarton Nursery and Nether Currie baby & toddler group respectively, three primary schools (Nether Currie Primary, Currie Primary and Riccarton Primary) and one secondary/high school (Currie High School). To the north of Currie is a university; Heriot-Watt University. Currie is close to popular leisure destinations which include the Pentland Hills and the Water of Leith wooded pathway/route, which is used for walking and cycling. The area is served with two Lothain buses, 45 and 44, which go into the main Edinburgh City.

In terms of the social character, the area will be described as being of a working to middle class status with a population of about 7913 as at 2011 (Scottish Neighbourhood Statistics, 2014). The number of houses owned is higher overall, with the number of rented houses, either privately rented or social renting, being lower (Scottish

Neighbourhood Statistics, 2014). This has been presented in (see figure 5.19) below with figures reported as at 2011. This reflects the situation in the city of Edinburgh as presented in a graph in figure 5.14 in section 5.5.2 above.

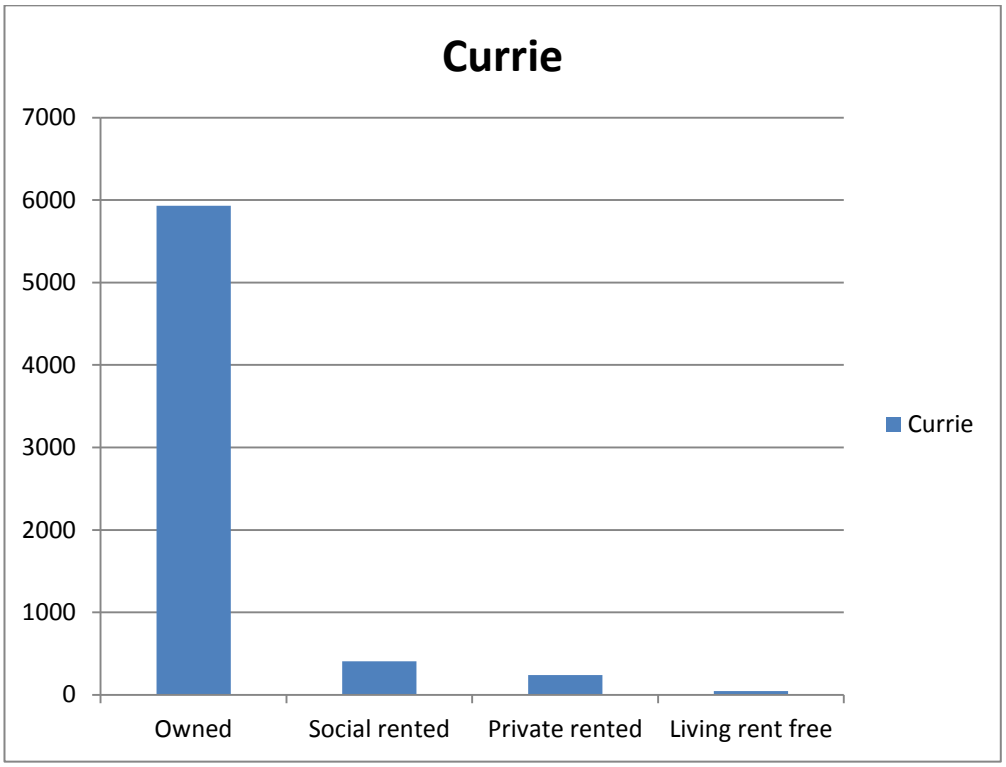


Figure 5.19 Showing the different tenure in Currie. Source: Scottish Neighbourhood Statistics, 2014

The characteristics of the area support family life, the area is described as a good place to take care of children as per the observation from the field work. As of 2011, about 14 % of the population were children, 65% were working age and 20% pensionable age (Scottish Neighbourhood Statistics, 2014).

The area contains a good mix of households but with family households, i.e. with children, being the lowest in number. See figure 5.20 below. These statistics reflect those of the situation in Edinburgh that family households are fewer than the other household types. See figure 5.13

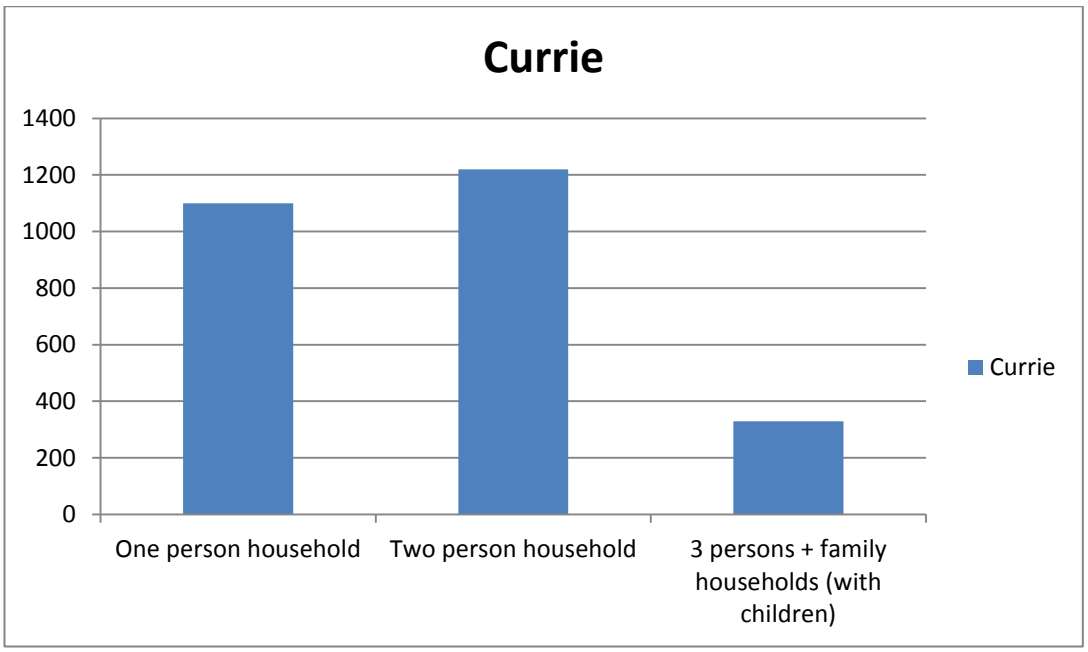


Figure 5.20 Showing the different households in Currie. Source: Scottish Neighbourhood Statistics, 2014

Currie as an area seemed to be a typical residential area that supports the type of neighbouring that this study is interested in investigating, hence the area being chosen and studied.

5.6.2 Restalrig

Location

Restalrig is a well-established residential area located to the east of Edinburgh City. It is located about 3 miles from Edinburgh city centre, i.e. Restalrig is bounded by Leith to the North, Craigentinny to the East, Edinburgh City to the west and Meadowbank to the south. It is located within two arterial roads – the A1to the south and the A900 to the west and a main (the A119) road to the east which runs along the Shoreline of the North Sea. The maps below show the aerial view of Restalrig and the annotated map shows the area within Restalrig where all of the parents who took part in the study lived. Areas located to the north of this annotated map are sometimes considered as Leith, however from the recruitment exercise it was revealed that people living to the north of this area, i.e. Prospect Bank Place and Leith Links colonies, located directly to the north of the boundary, did consider themselves to live in Restalrig. In order to ensure that the study

area had all the dwelling types of interest within it, the boundary was extended to include these areas.

Figure 5.21 The aerial view of Restalrig, Source: Google Maps

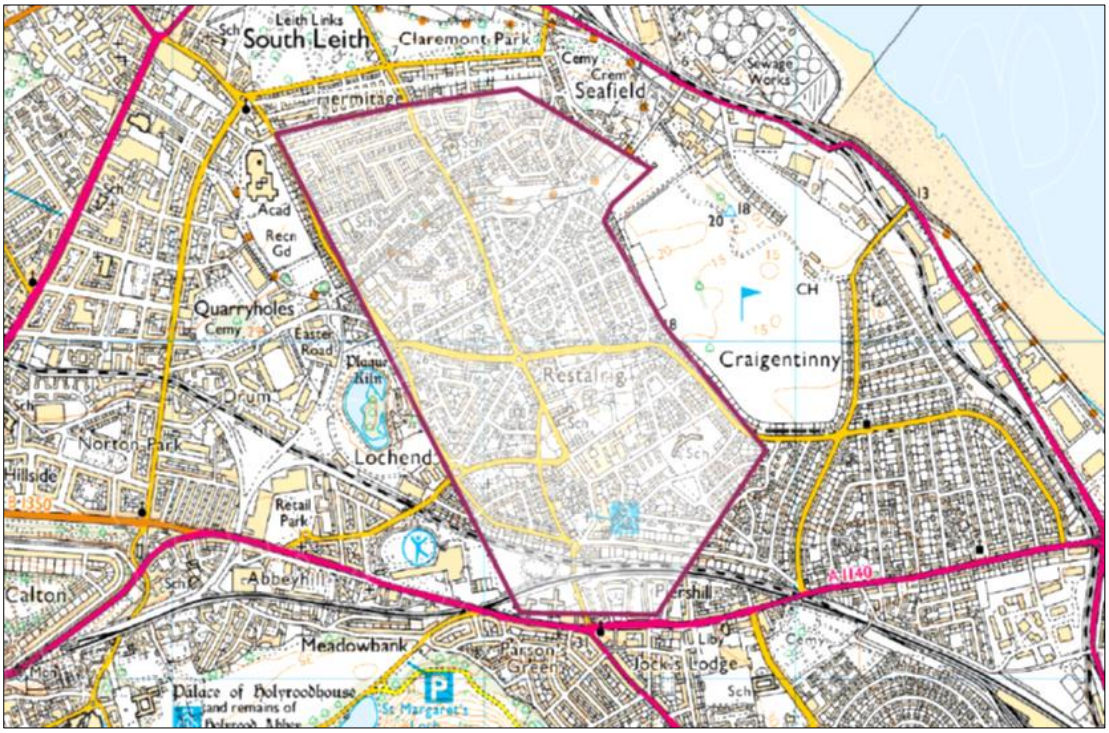


Figure 5.22 Annotated map showing where participants live within the wider area of Restalrig Source: Edina Digi Maps

Some history

There are different versions of history given about this area, however the aspect of interest to this research is that of land ownership. It is believed that around the 1400s to the 1600s a family by name Logan owned lands in the area of Restalrig with their home being in Lochend. In the early 1600s however they sold part of the lands to one Lord Balmerino and the part which is currently Craigentinny to a merchant by name James Nisbet. Following the 1600's, the area changed hands several times. It was mainly farms lands and dairies and possibly marsh lands, as it is believed that the name Restalrig comes from Lestal-Rig, meaning a boggy field. But housing was built to the north and east of this area by a mix of public and private, around the 1900s reflecting the housing growth in Edinburgh at the time and this increased in number over the decades (Edinburgh Past and Present, undated).

The physical and social context

Currently, there is a mixture of housing types and tenure in the area but with tenement dwellings being slightly more than the other dwelling types. From observation and using the standard set by the SHC (2002), the age of the dwellings range from post 1919 to post 1982. The tenement dwellings were predominantly 20th century developments (1919-1944). The area has a good range of amenities such as local shops, a post office, medical services, a library and leisure centres for leisure activities. It also has a number of nursery/mother and toddler/play groups, namely Clownaround, YWCA and Messy Munchkins. Restalrig and also the Leith area that was included in the boundary have a number of primary schools. Those identified as close to the study area were St Ninians Primary School, Craigentinny Primary School, Prospect Bank School (which is a special needs school) and Hermitage Park School. The main secondary school is Leith Academy. Restalrig benefits from a number of popular leisure destinations close by such as the Portobello Beach and Arthurs Seat. The area is served by Lothian buses 25, 21 and 34, which go into the main city of Edinburgh.

This area will also be described as being of a working to middle class status, however there are pockets of lower class areas. As of 2011 the population of the area is recorded as 3638 (Scottish Neighbourhood Statistics, 2014). Some areas in Leith were included

in the study. The reason was the participants believed they lived in Restalrig. Hence the population figures for Restalrig and Lochend (considered as one area) has been reported. There are more houses reported as owned as compared to houses that are rented, i.e. private and social rented (Scottish Neighbourhood Statistics, 2014). This is presented in figure 5.28 below. Again, this reflects the situation in the city of Edinburgh as presented in a graph in figure 5.13.

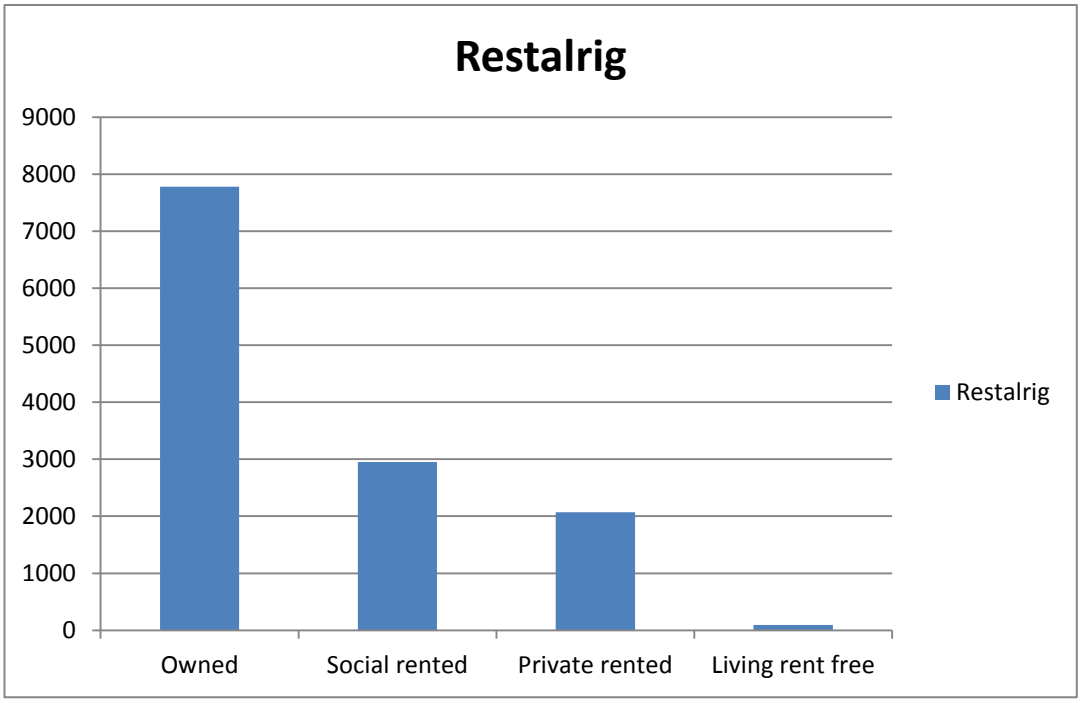


Figure 5.23 Showing the different tenure in Restalrig. Source: Scottish Neighbourhood Statistics, 2014

The characteristics of the area supports family life as described during the field work. As of 2011, about 16% of the population were children, 64% were working age and 19% pensionable age (Scottish Neighbourhood Statistics, 2014). The area seems to be home to a good mix of households but with family households being the lowest. See figure 5.24, Again as discussed in section 5.5.3, family households are generally fewer in Edinburgh. During the informal surveys it was revealed that family households live in all the dwelling types as in Currie, therefore making this a suitable area to study.

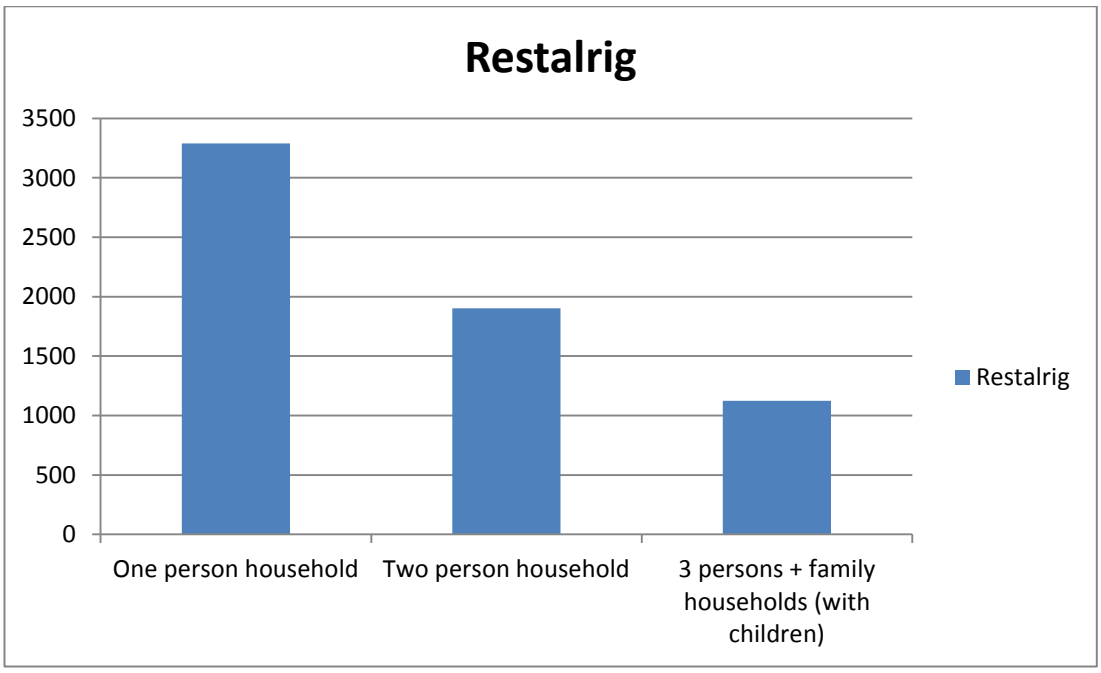


Figure 5.24 Showing the different households in Restalrig. Source: Scottish Neighbourhood Statistics, 2014

Restalrig as an area seemed to be a typical residential area that supports the type of neighbouring that this study is interested in investigating, hence the area being chosen and studied.

5.7. Conclusion

This chapter has looked mainly at the history surrounding the development of the different dwellings (the selected four) types and also the physical makeup and character of the dwellings and their surrounding spaces. Doing a morphological analysis of the spaces around the selected dwellings was important to meet some objectives of the research (objective 2) as well as setting the platform for the analysis of the acquired data on space use for social interaction which will meet objective 4.

In the preceding chapters, particularly chapter 3, it was explained through examining other studies that a gap in research is the need to examine how, where and why social interactions are happening in the places that they do happen. This research attempts to

research this gap and this chapter looked at the various spaces around the residential dwelling where social interaction among neighbours is likely to happen.

From a study of the spaces we find that there are varieties for the various dwellings which afford and furnish different social interaction experiences. The interesting thing from the exploration above is that it is not clear yet which spaces might be more interactive than others and which spaces will encourage willing and happy social interactions. The next chapters will look at and examine in detail how these spaces are used for social interactions and the type of social interactions that happen within them. As mentioned in chapter 4, the 2 propositions that were established from the thematic analysis were used to help guide the analysis process, however care was taken to allow the data to speak for itself from the analysis carried out. The findings are discussed in chapters 6 to 8.

Chapter 6 Meeting people

6.1 Introduction

This chapter presents empirical findings of the study and so focuses on factors that encourage meetings and interactions within the residential environment. A look however only at societal factors that affect social interaction within the residential environment is not entirely possible. Chapter 2 explained the ecological nature of social interaction and the reasons why a particular factor cannot be a main cause. Picking on this, there will be a look at the physical elements of the residential environment which will work together with societal factors to influence social interaction.

This chapter discusses three main themes that have been identified from the data analysis of meeting people. The first theme looks at the characteristics of the sample group including an overview of their interaction patterns. Understanding the sample will help in understanding the *types of activities* they undertake and how this affects social interactions and meetings at certain places. See section 6.2. The second theme looks at what the sample does on a day to day basis in terms of their activities. See section 6.3. The third theme will then look at how people's perception and societal judgements of the residential environment influence social interactions and meetings. See section 6.4 The discussion of the third theme, links to literature discussions in chapter 3. To help with these discussions, the interviews, the annotated neighbourhood maps and the SMS survey data have been used. This chapter will help to fulfil aspects of objective 3 - To examine social interaction and how it is linked with the built environment; and objective 4 - To assess how positive social interaction arises from space use within the different residential built form types.

6.2 The characteristics of the sample group

Who are they (the sample)?

A total of 30 adults with children up to age 11 took part in the study. Out of the 30 participants within both study areas, 27 were women and 3 were men and all from the

Currie study area. The gender imbalance was not recognised as an issue in this study because space use experience for social interaction by anyone was sought. From literature (refer to discussions in section 2.3) women however tend to have larger social networks, implying that they may interact more with people. This gender imbalance also reflects Bould's (2003) point that child care duties are most often carried out by women. All the participants were within the age range of 17 to 45. Out of the 30 participants, 9 were not in any form of employment but their spouse or partner was. Those who were in some form of employment worked mainly on part-time basis.

The average length of stay within the areas was 5 years in Currie and 7 years in Restalrig. This fact about their average length of stay could imply stability and establishment by participants within the areas. The same applies to the situation with their tenure. In both study areas the homes of 19 participants were owned (mortgage) with the remaining renting their homes from either private or social landlords. The renters were all those living in tenements and some 4-in-a-block dwellings. There was however a difference in tenure for residents living in the 4-in-a-block housing in the two case study areas. In Currie, they rented privately whilst in Restalrig they owned their homes. This perhaps could be attributed to the historical influence, in particular the colonies being popular and sought after developments. See discussions in section 5.2. Also these developments had aesthetic qualities, especially for some of these 4-in-a-block dwellings located within the Leith Links area (see map of Restalrig in Appendix M), therefore making these areas favourable places to live. See quote below.

> *Errm I guess our street is Victorian terrace errm so I guess it has a slightly twee look about it. It is quite cute. Errrm it's quite like the colonies, so I think it attracts certain people that quite like that* [RE10, 4-in-a-block]

Table 6.1 below provides a summary of the character of the sample[29] and table 6.2 provides information about participants in each case study area. As mentioned previously, knowing the sample helps to establish who they are and what they might do within the residential environment. The next sections will give an overview of how the sample generally used their environment and the types of activities they undertook.

[29] CU means Currie and RE means Restalrig

Table 6.1 Sample character in both study areas

Participants	Gender	Age	Work status	Work hours	Tenure	Yrs of stay	Marital Status	Dwelling Type
CU1	M	36-45	Y	FT	Rented PL	3	Married	Tenement
CU9	F	36-45	Y	FT	Rented SL	6	Married	Tenement
CU11	F	17-25	N		Rented SL	5	Married	Tenement
CU12	M	46-60	N		Rented SL	8	Married	Tenement
CU10	F	36-45	N		Owned	4	Married	4-in-block
CU14	F	26-35	Y	PT	Rented PL	2	Married	4-in-block
CU16	F	36-45	N		Rented PL	3	Married	4-in-block
CU4	M	46-60	Y	FT	Owned	7	Married	Terraced
CU6	F	36-45	Y	PT	Owned	6	Married	Terraced
CU13	F	36-45	Y	PT	Owned	7	Single parent	Terraced
CU15	F	26-35	Y	PT	Owned	3	Married	Terraced
CU2	F	36-45	Y	PT	Owned	4	Married	Semi-detached
CU3	F	36-45	Y	PT	Owned	6	Co-habiting	Semi-detached
CU5	F	36-45	Y	PT	Owned	7	Married	Semi-detached
CU7	F	36-45	Y	PT	Owned	5	Co-habiting	Semi-detached
RE2	F	26-35	Y	PT	Rented SL	2	Single parent	Tenement
RE3	F	36-45	Y	PT	Rented SL	4	Married	Tenement
RE5	F	26-35	N		Rented SL	7	Married	Tenement
RE7	F	46-60	N		Rented PL	12	Single parent	Tenement
RE1	F	36-45	Y	FT	Owned	7	Co-habiting	4-in-block
RE8	F	36-45	Y	PT	Owned	8	Married	4-in-block
RE10	F	36-45	Y	PT	Owned	8	Married	4-in-block
RE11	F	26-35	N		Owned	5	Married	4-in-block
RE6	F	36-45	Y	PT	Owned	5	Married	Terraced
RE12	F	36-45	N		Owned	1	Married	Terraced
RE9	F	26-35	N		Owned	5	Married	Terraced
RE13	F	36-45	Y	PT	Owned	19	Married	Semi-detached
RE14	F	36-45	Y	PT	Owned	10	Married	Semi-detached
RE15	F	36-45	Y	PT	Owned	9	Married	Semi-detached
RE4	F	36-45	N		Rented PL	4	Married	Semi-detached

All the participants listed in this table are from different semi-detached, terraced 4-in-a-block and tenement dwellings so in all 30 different dwellings were looked at as discussed in section 4.3.1.

Table 6.2 Showing the sample proportion in each case study area

	Semi –detached	**Terraced**	**4-in-a-block**	**Tenement**
Currie	4	4	3	4
Restalrig/Leith	4	3	4	4

How do participants use their environment for meetings and interactions?

Chapter 4 explains why the demographic group was chosen and this was because they spend a considerable amount of time using the residential environment. As one participant explains:

> *... but the thing with having children is you spend a lot of ... getting in and out of your house kind of takes a long time ...[laughs] it takes a bit longer when you are trying to get a buggy and shopping and small children in ... so you are kind of out of the street more I suppose, so there is more opportunity that you are going to meet other parents on the street, because they are also fumbling around for their keys or trying to make sure that their child doesn't run into the road and that kind of things* [RE8, 4-in-a-block]

To give a sense of how often and where the sample interact and meet people, figures 6.1 and 6.2 were produced using the SMS survey data. Both figures show information about the daily interactions and also information about where the interactions happened. During the 5 days of the SMS survey, participants reported to have had meetings and interactions either within the home-patch or away from home. Meetings and interactions that occurred or were reported either home-patch (H) or away (A), were marked with blue and a tick.

When participants reported no meetings and interactions either within the home-patch (H) or away (A), this was marked red and a cross. The grey boxes represent 'no responses' from participants on the day of the survey.

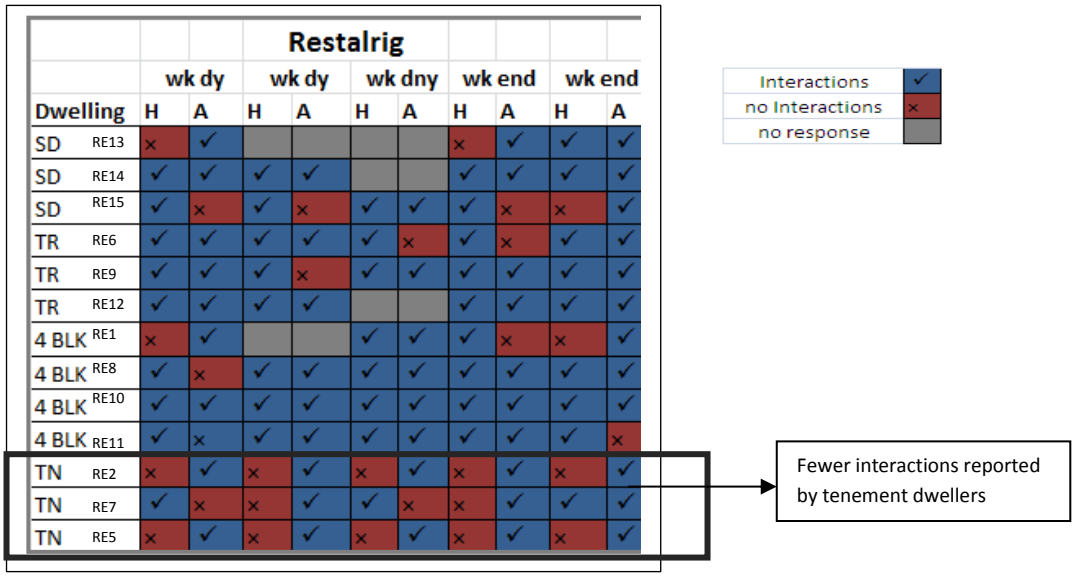


Figure 6.1 Interactions and meetings reported in Restalrig

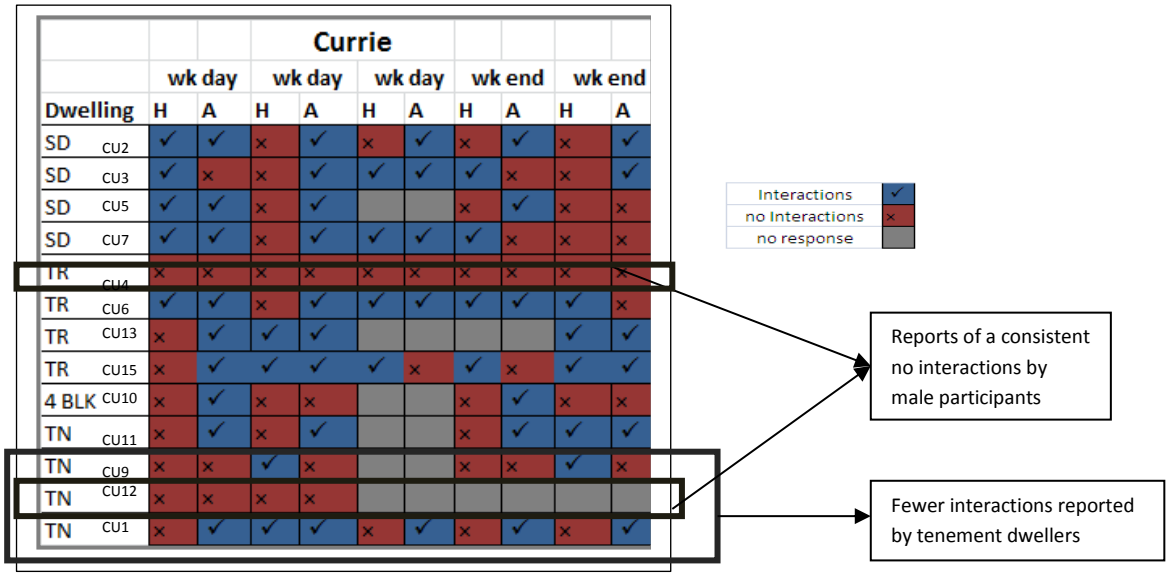


Figure 6.2 Interactions and meetings reported in Currie

The abbreviations in the first columns of the charts represent the 4 different dwelling types as explained below.

SD - Semi-Detached

TR - Terrace

4BLK - 4-in-a-block

TN - Tenement

Below are some examples[30] of the SMS responses that were translated into the charts in figures 6.1 and 6.2. These two show interactions mainly around the home, but as can be seen from the charts there were a lot of interactions reported that occurred away from home.

I met my neighbor in the stair and said hello :)
[CU11 Tenement]

Home-patch interaction

Hi, I exchanged hellos & brief chats with 4 people on my street this morning
[RE 4-in-a-block]

Home-patch interaction

Observations

Tenements interact away from home

Figures 6.1 and 6.2 show that tenement dwellers in both areas reported fewer interactions around the home i.e. the home-patch when compared to the other dwelling types. Chapter 7 shows in many instances that the design of the tenement dwelling is not favourable for a variety of social activities which would have been as a result of social interactions. It could be that the tenement participants found places elsewhere and away from home to use for social activities.

One factor however may be tenure, as can be seen from Table 6.1, all tenement dwellers rented their homes from either private or social landlords. It is possible that this may have resulted in a lack or absence of strong feelings of ownership of the dwelling and its environs which may have affected how often they interact with neighbours around their homes. Perhaps this point about tenure resulting in the absence of feelings of ownership by participants, would be valid if in this study, participants living in tenements, met other people from other tenures but interacted less. However, the point made is similar to the outcome of a study by Forrest and Kearns (2001) which showed that indicators

[30]The bubble is used to represent verbatim SMS data (text messages) from participants hence some typos may be present.

such as exchanging favours and also feeling part of the community differ among tenure types. Social renters (n= 981) reported lower scores for not being part of the community or not exchanging favours with neighbours. Therefore it may be safe to make a link between social renting and lower social interactions. As mentioned previously, in this study most of the tenement dwellers rented their flats from social landlords and most of the tenement dwellers did not interact with their neighbours or do social things together with their neighbours (this finding runs through the subsequent chapters). Therefore the fewer interactions within the tenement may again be linked with tenure and not design at this point but a strong conclusion cannot be made because of the limited evidence available.

We learn from the literature (refer to discussions in chapter 3.4) that how people perceive a place affects their interactions. Ellaway et al. (2001) state that housing tenure affects perceptions. It is therefore likely that the tenement dwellings were perceived in a negative light which therefore affected sociability. Section 3.2 explains how perception is a strong influence on making judgements about what a thing can be used for and this includes spaces within the home-patch. What can be said here then is that because of the association of tenements with social renting as in this study, again it is possible that this then affects the perceptions of the tenement dwellers, which in turn affected their social interactions and sociability in general.

Participants living at Restalrig report more interactions with neighbours

When looking at the outcome per area, on the whole, there were a lot more interactions and meetings either home or away reported by the Restalrig participants than from the Currie participants. It is not clear why this is the case, because both areas are similar in character regarding land use infrastructure and physical features (refer to discussions in section 5.4). Therefore the expectation is that the use of the environment by the sample would be similar. Also looking at the sample (Table 6.1), there is not much of a difference in social status to suggest it may have affected the outcome with regards to differences in interactions in both areas. A possible explanation for the difference in results would be people's personality. As discussed the literature, section 2.3, the factors that affect social interaction are ecological and one is personality. It is possible that Restalrig as an area attracted people who are on the average more sociable hence

the outcome. This is possible but not likely. Also it could be that people who volunteered in the Restalrig area are more sociable than those in Currie. Another issue could be the slight difference in the character of the area. Although both areas have similar characteristics in terms of social class and infrastructure (see section 5.6), Currie is could be classified as a bit more suburban than Restalrig which is Urban. This may again have affected the differences in interaction rates between the two areas as observed in this study. In this there are issues of sample biasness being highlighted, however these are assumptions and could mean nothing in particular.

Fewer interactions reported by men

Another observation was the fewer males of the sample (see table 6.1) did not report that they went out or interacted and met with people as much as the women did. In figure 6.3 it can be noted that there is one case in Currie where a terraced dweller participant reported not interacting with anyone at all during the days of the survey. However according to the interview, he used the environment intensively for a range of activities. The other case again is of a particular male tenement dweller that out of the five days of the survey reported not interacting with anyone for two of the days and did not provide any response for the remaining days. At this point the conclusion made could be that the other spouse or partner was undertaking the activities centred on the children. Even though the literature (refer to discussions in section 2.3.2) mentions that women have the tendency to have wider social network, it might be the reason for fewer social interactions being reported by the men. However considering the fact majority of the participants were women, much cannot be said about this observation.

This section (6.2) provided information about the sample and an overview of their interaction patterns. Most importantly, we see that fewer interactions and meetings between people were reported by people living within tenements. Other things found were more interactions happening in Restalrig than Currie and of course by women than men. What is not yet known is what these participants do that influences their meetings and interactions with people. As such, the sections below will explore and explain the type of activities the sample undertake and how this affects their meetings and interactions within the residential environment. Understanding the nature and character of activities helps to establish which type of activity will encourage which type of

interaction. This in turn will help to identify areas where the activities happen. Identifying areas where activities happen is important for creating interventions to either support further social interactions or improve the places for social interactions in light of the main objective of the study: to *examine how different residential built forms affect positive social interaction.*

6.3 The activities of the participants within the residential environment

The point made here is that, activities influence social interactions. The meetings and interactions (meet and interact will be used interchangeably) of the sample were often achieved through what will be described as *everyday essential activities* and *occasional or optional activity.* Table 6.3 presents both types of activities and also some examples of each.

Table 6. 3 Two types of activities the participants undertake

Activities	**Examples**
Everyday essential activities	-School runs -Grocery shopping -Hospital appointments -Children's activities
Occasional or Optional activities	-Tea/coffee/drinks -Gardening -Social trips -Street party

In the following paragraphs quite a lot of discussions take place about the everyday essential activities. This as the name suggest happens daily and so it will be interesting to know how this affects day to day interactions and then mental wellbeing.

The everyday essential activities are similar to Gehl's (1987) classification of necessary activities because they are deemed obligatory, although this depends on what an individual considers as a need. For participants in this study the everyday essential activities were day to day activities which depended to a large extent on the activities of the children. For example: grocery shopping, part time working and school runs

(including also after school activities and even child's play described as a necessary requirements for a child's development (Bould, 2003; Cocoran et al., 2009; Kytta2011)). Examples can be seen below.

> *Oh yes we got to the school every day [laughs] we know quite a lot about the school … And again High school, we quite often errr sort of play and walk around in the High school … my son does swimming class in the high school ...* [CU15, Terraced]

> *For example on a Wednesday night the… kids have got 5 activities …so between school football and the other one has got dancing then the older one has got basketball down at Leith Academy, then we have got Beavers, then we've got cubs and so it just getting to different places at different times, but nothing is more than 5 minutes at a time in the car. N is at drama club, the other one is at football, we have got rugby but everything is within …* [RE14 Semi-detached]

The question now is: how do these everyday activities affect positive social interactions and of course people's mental wellbeing? Most of the unplanned interactions arose from these everyday essential activities which reflect observations made by Baum and Vallins (1977) and Fleming et al. (1985). These authors made a point in the literature that unplanned activities arise from everyday chance encounters and everyday essential activities of the participants (refer to discussions in section 2.2).

> *... errrrmm just bumping into people sort of not arranged … Well that will be ... at the school certainly and the dancing definitely. And also ... it just depends, my partner actually works here in the GO offices... at George's Lodge ... This is the Registry of Scotland so that is where he works. So we generally know quite a few people, we can bump into them in this kind of area [RE1 4-in-a-block]*

> *Everywhere … I don't have friends around here, but they are very friendly that if I pass and someone can say hello, how you are doing...are you new in this area or something like, that...and they can sometimes talk to [sons name] [RE2 Tenement]*

From these chance encounters or unplanned interactions, weak ties can be formed as can be seen by the comment by RE2 above. The literature in section 2.3.3 explains how plenty unplanned interactions can result in plenty weak ties as compared to strong ties (Henning and Lieberg, 1996). Also these weak ties are described as being beneficial to people's mental wellbeing afterall because they are common and have become part of an established norm for interacting socially within the residential environment (refer to section 2.3.3). This may be expected because the everyday essential activities seem to be more dominant than occasional or optional activities and therefore result in more unplanned interactions than planned ones (see figures 6.3 and 6.4 below). It is useful to know how everyday essential activities affect the dynamics in interactions within the different dwelling types.

Everyday essential activities, social interactions and the dwelling

It seemed initially (through the interviews) that it did not matter what dwelling type a person lived in, as unplanned interactions which most often stemmed from everyday essential activities (Baum and Vallins,1977 and Fleming et al,1985) happened everywhere and were applicable to all. However, some findings were observed regarding unplanned interactions in relation to the different dwelling types and differences observed. SMS questions 1 and 2 [31] were therefore used to produce graphs (see figures 6.3 and 6.4). Any time a participant reported 'meeting' someone it was tabulated and generated into a graph to show how often interactions happened *within* spaces of the different dwellings. Though the SMS survey question 1 asked about interactions further from home as well, the graph focused on interactions people had 'closer' to home thus a 200 metre radius around the dwelling of the participants. The 200 metre radius focus was used based on information provided by participants from their map annotations.

The aim was to capture: interactions within the home-patch, i.e. spaces such as street pavement, next door, front and back spaces which are associated with the dwelling; the differences in interaction types as per the dwelling type to highlight which features around the dwelling have an impact on interactions and to appreciate and capture

[31] -Have you met (chat, waved etc) anyone in your immediate or wider neighbourhood today?
- How many people have you met?

'walking life' and how it influences social life within the identified spatial scale being studied. Walkable distances are defined to be up to 400 metres from the home (Gehl, 1987; Barton et al, 2003) therefore the 200 metre radius focus was feasible because it fell within the expected walkable distance of 400 metres. Interactions further away have been discussed where necessary under other topics in subsequent sections.

The graphs (see figure 6.3 and 6.4) tabulated planned meetings and interactions as well so that a comparison can be made between both. Even though Baum and Vallins (1977 and Fleming et al (1985) make a point about unplanned interactions being a product of everyday activities, both unplanned and planned interactions could occur from everyday activities. For example an everyday activity such as a school run which results in most unplanned street interactions could result in planned interactions due to a planned meeting between parents to drop children at school, and as such it was important to acknowledge both.

> *C and I ... share the school runs based on after school activities. In the course of this we meet for coffee and do other things together with the kids. It works out well.* [RE4 Semi-detached]

As mentioned in previous sections, the unplanned or chance encounters outnumbered the planned encounters.

Based on the graphs, the following were found for Currie (figure 6.3) and Restalrig (figure 6.4). The figures on the x axis show the number of times interaction with immediate neighbours was reported. The figures represent interactions reported throughout the entire duration of the survey 5 days. Currie participants reported a fewer number of interactions closer to home than Restalrig. Currie participants reported from 2 up to 14 unplanned interactions per person for the duration of the survey. Planned interactions were from 1 to 6 interactions per person for the duration of the survey. 6 out of 14 participants reported planned interactions over the entire duration of the SMS survey. Restalrig participants on the other hand reported from 3 up to 29 unplanned interactions per person for the duration of the survey whilst planned interactions were

from 1 to 4 per person for the duration of the survey. 7 out of 13 participants reported planned interactions over the entire duration of the SMS survey.

The average for unplanned interactions in both areas is very similar, i.e. 9 for Currie and 8.7 for Restalrig. The average number of planned interactions in both areas however is quite different, i.e. 2.78 for Currie and 0.8 for Restalrig meaning planned interactions are higher in Currie. One explanation could be that though participants in Currie reported fewer interactions than Restalrig, they spent time on more meaningful interactions out of their everyday activities. Examples are visiting a friend in her home on their way somewhere. The sample is quite small to draw solid conclusions that this might be the case that; where unplanned interactions were more, fewer planned interactions happened and vice versa. This point then cannot be taken any further.

The numbers seem small for the entire duration of the SMS, but a possible reason could be participants reported selected interactions for whatever reason suitable to them. The next few paragraphs now explain the differences in interactions where the different dwellings are concerned.

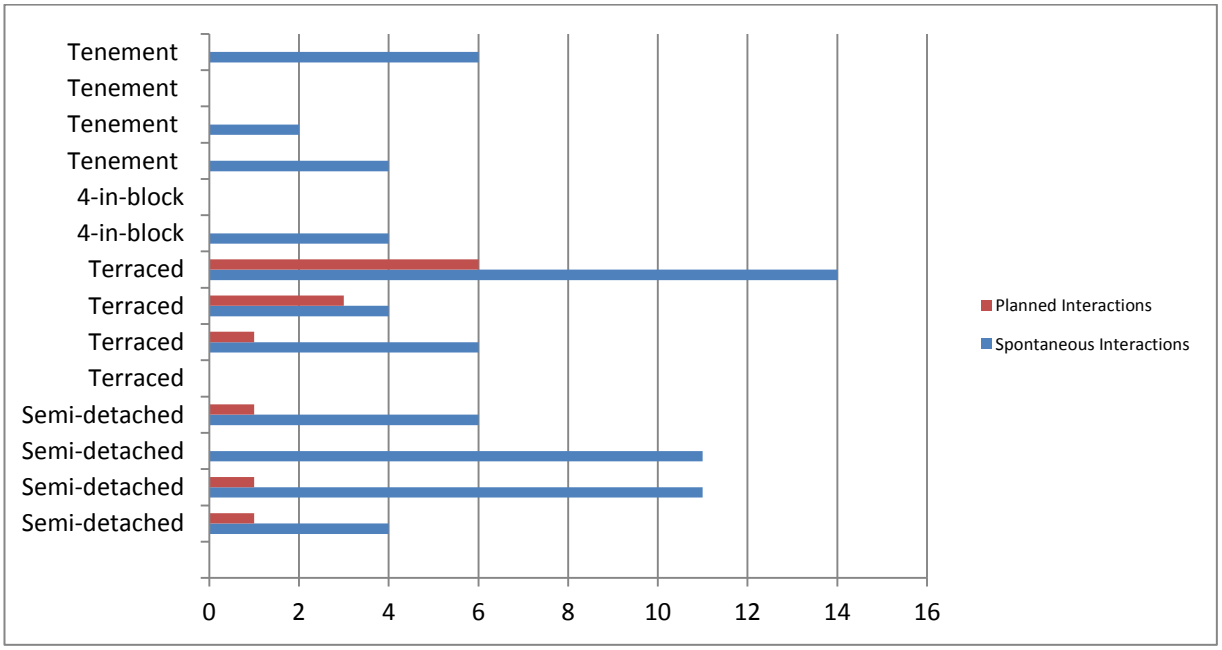


Figure 6.3 Social interactions and meetings reported by participants in Currie within 200 metres from the dwelling.

Note that the numbers (on the x axix) of interactions reported in Restalrig are fewer than those reported in Currie. Participants in Currie report up to 14 interactions per person over the survey period whilst participants in Restalrig report up to 30 interactions per person over the survey period. To avoid confusion, it will be better to look at each case separately but then acknowledge the differences in their interaction levels.

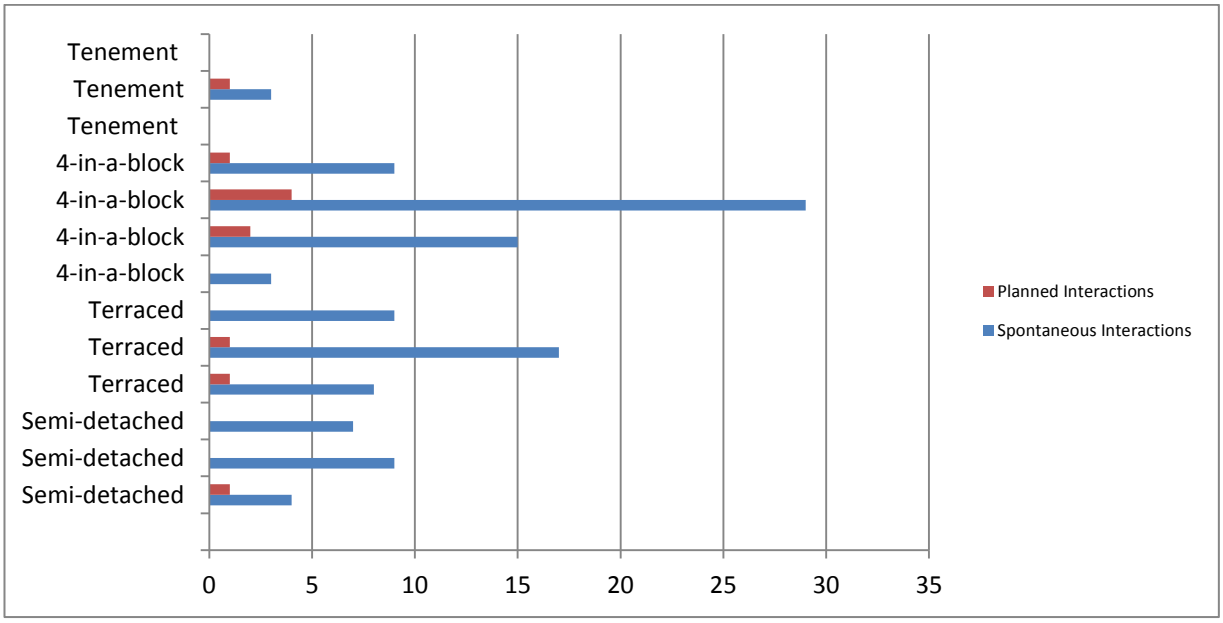


Figure 6.4 Social interactions and meetings reported by participants in Restalrig 200 metres from the dwelling.

The planned interactions are in red series and the unplanned interactions are in blue series. Some reported zero interactions which are reflected on the chart.

The presentation in the charts above shows some differences in the *number* of unplanned interactions had between the different dwellings. For figure 6.3, the chart shows that interactions around some terraced dwellings are more than interactions around some semi-detached dwellings. Also some interactions around some tenement dwellings are similar to interactions around some terraced dwellings. However it can be said that there are fewer interactions reported to be happening around and in this case within as well tenements (including some reporting no interactions at all) and 4-in-a-block dwellings hence the flats in general, than in the houses - semi-detached and terraced dwellings. In Restalrig however, the graph Figure 6.4 shows more interactions in 4-in-a-block dwellings followed by terraced dwellings and then semi-detached dwellings, which is the reverse of the situation reported for Currie. But the common outcome between the two is fewer interactions around tenement dwellings, with some

reporting no interactions at all. Hence according to the SMS data for both areas, all the dwelling types report more neighbouring unplanned interactions than tenements. So though everyday activities are undertaken by all, for those living in the tenements it does not seem to generate many social interactions.

At this point it was worth examining the case for optional/occasional activities and social interactions from the data.

Occasional or optional activities and social interactions

Occasional or optional activities are purely based on desire and a pull factor. Examples of such activities are: meeting/inviting friends for coffee, gardening, social gatherings, parties, voluntary activities. The latter are pull factors described by Scheilling (1979) as the critical mass model. Activities happen as a result of people getting involved in an activity because other people are doing the activity. One thing however is, the occasional or optional activity is dependent on a number of favourable factors. Gehl (1987) asserts that some everyday essential activities can fall into other categories depending on a number of conditions including the environmental. Gehl's (1987) assertion was observed in this study. A participant who was supervising her children play, which as in table 6.1 is an everyday activity, found an opportunity to embark on an occasional activity. This was because the environment was favourable to have influenced the change in activity.

> *They were putting the road bumps in on our street. And so they cleared the street, all the cars had to move and they blocked off the street…all the children were out on the street playing... because they were no cars and there were some piles of gravels and stuff for the builders… so they were playing in that… And I think they met people that they didn't know because there were 2 schools so they didn't all know each other...errrm and so I thought, ' oh this is great',… I thought that once a year, clear the street of all the cars and close it and have a party on the street.* [RE10 4-in-a-block]

We see that the extent of freedom the children had whilst playing on their street during their regular play time promoted an innovative use of the space by the participant. The street had been closed down for gas works, hence creating a public realm. As such an idea came to her to campaign for her street to be closed and be used as a public area for socialising, an example being a party. Such opportunities created avenues for interactions and meetings among residents and in this particular case it became a tradition for the 'street' to clear their street/road annually and use it as a space to meet for leisure activities.

Using areas such as the street for occasional/optional activities was associated with the semi-detached, the terrace and the 4-in-a-block dwellings in both areas, but not the tenements. Chapter 7 discusses the use of the street for social interactions in detail. Opportunities for spaces around the tenement dwellings to be used for occasional and optional activities are more-or less non-existent, as found with this sample. Planning practice in Scotland encourages places to be adaptable or changeable if they are to be successful, meaning there is room for improvement in the case for spaces around the tenement dwelling.

Commonalities that affect activities within the home-patch

Talking generally about activities that result in social meetings and interactions, it was noted that homogeneity of people played a major role. We see in section 3.4 that people with similar lives or interests tend to do things with and for each other (Kuper, 1953; Newcomb, 1961; Gehl, 1987; Hall 1999; Halpern, 1995; Berkman, 2000). Examples were school runs, an everyday activity.

> *...because you definitely seem to have more to do with people who have got children ... than not ... and I do not know, but maybe it is because you are forced into situations 'with' them* [CU2, Semi-detached]

> *I think partly because of having children the same age....partly because we can be of help each other out if we need somebody to...like today I have got to take*

one of them to the doctor and the other one....it might run over that the other one comes home before I am home so she's going to go next door ....that kind of thing, we help each other out a lot there.... [CU7 semi-detached]

I then saw my neighbour at no.20 and handed my two kids over to her as she was looking after them this morning. At 1.30 I went back to no.20 to pick my kids up. I stayed in the house for about twenty minutes chatting [RE11 4-in-a-block]

hi, met with N from across the road to pick up her children before school run
[RE11 4-in-a-block]

The interactions that are produced based on homogeneity could be of the bridging and linking nature which are based on thin trust principles. But they could also develop into bonds which are dependent on a number of factors such as the length of time and frequency of interactions.

Even the school does comment that there is some sort of communal parenting going on. They say that we are a gang of mums who know each other so much and help with school runs. [RE12 Terrace]

From the example above the participant comments on how teachers of the area school commended parent's (living in the area) commitment to helping each other with school runs. The commitment is more of a planned system where each takes turns on taking other's children to school. So it turns into something a parent will do once in a while, therefore an everyday activity now an occasional activity but is still necessary. Which could also be an indication that when people are similar or homogenous, their interactions develop into strong ties between them. In which case everyday activities they collectively embark on can easily become occasional activities.

A reverse of the situation is portrayed below. Having no similarity with neighbours meant there were fewer opportunities to meet, interact or do things together.

The neighbours...well she has been out in a home and she has really not been well for a while... Betty so we have not seen her for a year or so. But if she was coming in and out, we will let on.... These ones… they just go in an out to their car and they are a bit deaf now, so it is hard to stand and have a conversation. [laughs] you have to shout constantly ... because they are so old [i.e. 97]. I think if it was younger people ... and it has the same people since I have lived here so ... [*RE13* semi-detached]

... I think I like to errrm interact more with ... errrm more mothers, more women my age ... you know ... children for my daughter... and I am not getting that while I am living here ... I mean when I moved in. I didn't have J but now it's become a problem, because I would like her...to interact with other people ... people's children ... even if it was another neighbour's child as well, then they could play in the garden ...[RE7 tenement]

It was not always the case that being similar resulted in doing activities together which resulted in social interactions. As stated previously and discussed in the literature review (section 3.4), seeing oneself as similar to another is dependent on personal judgement. The judgement meant participants decided on things they felt they had in common to another. This then influenced how connected they were to one another, the activities they undertake and the nature of their interactions.

It was generally observed from the data that participants living in the tenements did not consider themselves to be similar to other people, even when there were noticeable similarities. Examples are being parents of toddlers etc. Some tenement dwellers did not identify with this culture of 'doing things together' with and 'helping out' other people who were similar to them either within the tenements or out with the tenement. There were indications that there was segregation between parents living in tenements and with other parents in general. We can look at some examples. One participant reports of bonding affinities by other parents however, it is not clear if these 'other parents' lived mainly in the other three dwelling types and not in tenements. This situation caused her to detach and not get involved.

It is quite a clicky area where it's like....everybody like...unless ... cos I kinda kept myself to myself … I find like even the school, it's quite clicky at the school, like if you are not part ... if you are not known within the wee group ... like they all stand together and not really include you... if you know what I mean... [CU11 Tenement]

Another mentions that there are no opportunities to meet other parents due to time constraints. This tenement dweller also mentioned issues of stigma and prejudice against the tenements by dwellers of the other dwelling types. It is not clear though if this has affected the perception of interaction between herself and the wider community of mothers (see chapter 8). This could be a reflection that indeed tenement dwellers do not interact with the wider community as the tenements are seen as not belonging to the area.

> *I don't ... I don't meet any of the other mothers, because I drop him off, he is the first child there in the morning so I don't meet anyone....you see he is the first child there in the morning and I don't pick him up from school ... so I don't meet anyone at all due to work... I wasn't working, I would probably have that interaction with people...* [CU9 Tenement]

In the tenements, spaces are shared as explained in chapter 5 and this can at times be problematic and could affect sociability among resident even if they have a lot of similarities. Abu-Ghazzeh (1999) mentions however that the layout of some dwellings does encourage groups with similar life styles to do activities together. For example, mothers will come out with their children to play in open spaces of perimeter block designs when they see others doing it. Perimeter blocks contain shared spaces similar to that of the shared spaces of tenements. However this was not observed in this study. Though the conclusion is made, it must be looked at casually as some socio-economic characteristics may play a role in this issue of participants thinking they are dissimilar to other parent's within the area and therefore may not do things together with them. Both quotes are from tenement dwellers, however the first CU11 is a housewife and the second CU9 is an academic researcher. Both live in a 3 storey flats in Currie and both rent their flats. Though not known it is possible that the dynamics in their socio-economic standing affects what they do on a daily basis. CU11 spends more time at home than CU9. However they both mention that they do not consider themselves to be similar to other parents or belong to a group. Again these are few cases to make a strong judgement on, however the fact that they are different but live within the tenement may mean that the physical character of the dwelling plays a part. It is also important to

acknowledge that there are cultural contexts that should be appreciated and these can vary within cities as well as between cities, regions and counties.

The story so far about activities and social interactions?

The discussions above show that when there are opportunities to use the environment extensively or widely, it generates opportunities to interact. The participants undertook a range of activities that are centred on child care. As such they used their environment widely and this makes them naturally explore their environment as well as find innovative uses for their spaces and of their environment. This then attracts others to use these spaces which provide an opportunity to interact. *'Something happens because something happens because something happens'* Gehl (1987, p77). It can be argued that this is attributed to the children. Cocoran et al. (2009) state that children by their very nature are good at exploring their environment and are good at creating inventive uses of the spaces they use. Thus the extensive use of space sometimes allows people to be ingenious about the way they explore and use their environment and this generates other uses which attract other users, hence creating an opportunity for people to interact.

This might not be dwelling sensitive as this section mainly discussed interactions in a variety of spaces not only those around the dwelling. However it was noticeable that participants living in tenements reported overall fewer interactions based on activities. This may be related to the types of spaces available to them, which might not be favourable to social interactions, or to other social factors.

One social factor that is noticeable is tenure. From table 6.1, all tenement participants rented their homes. We see evidence of fewer interactions happening among the tenement dwellers, i.e. with neighbours or people outwith the home environment (see figure 6.1 and 6.2). It is possible that this lack of ownership of the dwelling and spaces around it affects the sense of belonging people have for the residential area as well as an obligation to develop any kind of social relationships through interactions. This in turn affects social interactions. Though this is a possible reason for fewer interactions happening within the tenement dwellings, what could explain the fewer interactions reported by tenement dwellers further away from home? It could just be the something found with this sample and nothing more. Also in table 6.1, there are other participants

who have rented their homes but expressed high levels of social interaction with their neighbours. These are namely CU16 and RE4 living in a private rented terrace and semi-detached respectively. These two examples were not working, which might also explain why they had the opportunity to interact with their neighbours. Though it is possible tenure may not affect the fewer interactions being had within the tenements residential area.

The issue of tenure is discussed again in chapter 9. This is because further evidence in chapters 7 and 8 will help strengthen the discussion on tenure as a social factor that affects social interactions within spaces around the residential dwelling. The next section looks at people's perception of places and how this influences meeting and interactions within the residential environment. Perception feeds affordances as we saw in section 3.3. Therefore people will only attribute positive or negative uses to spaces if their perception of then is positive or negative. The sections below explore some of the perceptions by participants and how this affected their social interactions.

6.4 The perceptions of the neighbourhood

Writd (2010) states that the perception people give to a place has the tendency to affect their daily activities including who they meet and interact with. She used a map to identify children's perceptions and the effect it had on their use of their neighbourhood for physical activities. Writd's (2010) approach was adopted to get a sense of how participants felt about their neighbourhood and how that got them to meet and interact with people. Participants were asked to produce annotated maps showing their neighbourhoods, how they use it, how well they know it, and areas within it that they identified as unsafe. Rather than use the term home-patch, the term 'immediate neighbourhood' was used because this is more easily understood than home-patch.

Neighbourhood meant different things to different people but the definition was based on subjective indicators. The indicators used included places of familiarity; places of identification (as in friends live there or people they know and trust), places and spaces frequently used; places of safety; places participants relate to physically and perceptibly and even spiritually. These subjective indicators were employed because as Dempsey (2009) advises participants know the areas better than the researcher. Their opinions and

perspectives were sought, to avoid personal or probably misjudged perspectives put on the descriptions of the place from researcher observations. The boundaries provided by the participants were deemed as acceptable. See quotations below.

> *And errm you know it is funny how your neighbourhood can seem quite small in a way depending on where you have to go in your day to day life... So it's not that I don't think that is part of my neighbourhood, it's more those are just the kind of routes that I do in day to day life.* [RE8, 4-in-a-block]

> *Errrrm so neighbourhood, I tend to think of where I would let my child go and that is probably it…* [CU5, Semi-detached]

Participants defined their neighbourhood in relation to their perception of the area. Some key words from their definitions included places they feel safe at, places they are familiar with and places they use daily. Out of these key words two main factors were prominent. These factors were safety and territoriality and are examined below.

6.4.1 The perception of safety

Participants were asked to mark areas where they felt unsafe using on their annotated maps. Their feelings of safety related strongly to how they use their neighbourhood for especially sociability. The theory of 'broken windows' shows that the image of an area affects further crime or further calm (Wilson and Kelling 1982). Therefore 'residents feeling that an area is secure will make more frequent use of it' (Newman 1972, p 78) and the more residents are out, the more they will meet with each other. Newman (1972) asserts that if an area is recognised as safe, adjoining areas will also be classified safe and the case is the same for the reverse. From the annotated map data, it was observed that there was a common agreement among participants regarding places generally considered unsafe in Restalrig. As such the maps below have been labelled to reflect this view by participants. It was not so much the case in Currie as different participants reported different areas as unsafe. The only place that was generally considered as unsafe by participants was the train station (see figure 6.6). The areas are presented in figures 6.5 and 6.6 below.

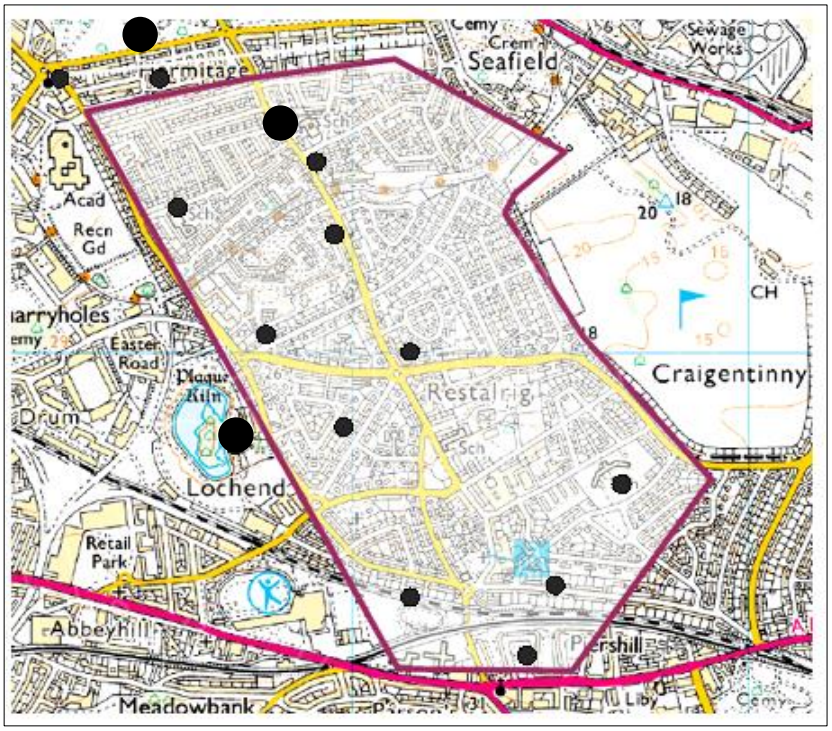


Figure 6.5 Map of Restalrig showing the unsafe locations as provided by participants

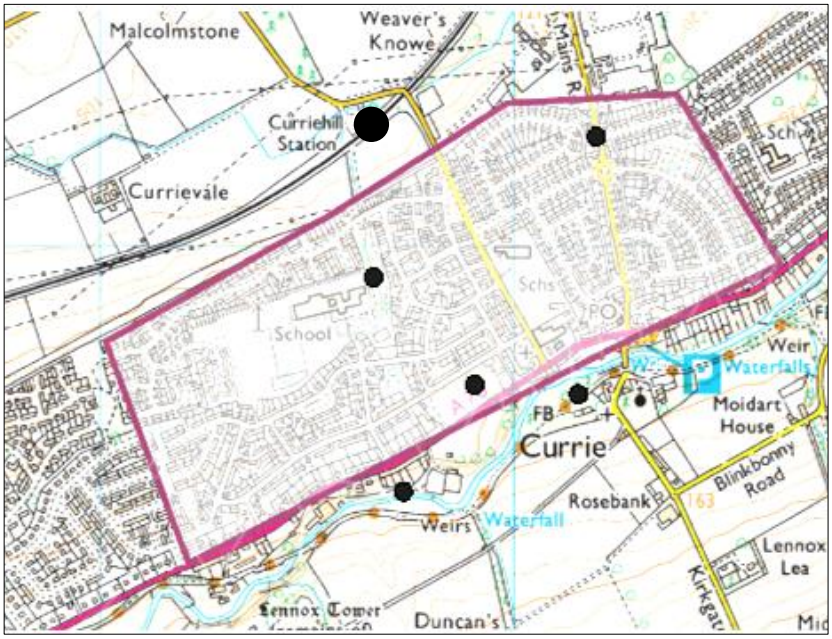


Figure 6.6 Map of Currie showing the unsafe locations as provided by participants

Despite the observation that more areas are regarded unsafe in Restalrig than in Currie, the SMS survey showed that participants in Restalrig met and interacted a lot more with people (see figure 6.1 and 6.2). An explanation for this could be that participants in Restalrig had more to report because they used their environment more than participants in Currie. Saying this, the general observation made from all data sources was that both areas are generally safe.

> *It's not without its problems ... sometimes we walk here at the back errrmm...you often the get teenagers going down there and these noisy like bikes ... so they just pop up and down. So there are sometimes issues like that but.... on the whole it is nice* [RE1, 4-in-a-block].

> *....I don't know... it more just a place to live than ... where Currie seems more a place to be part of...errm which might have good and bad sides to it... I am not making a judgement there... it is just that it does seem... for somewhere that is just a mile up the road... it is quite a different character of place... errm...* [CU3 semi-detached]

On the issue of the perception of safety in the neighbourhood, the map annotation exercise revealed that some of the participants in both study areas had a hierarchical boundary system. These were shown with a wider area boundary referred to as areas they used for various activities (as indicated with coloured dots on the map in figure 6.7) and then smaller or micro area boundaries considered as places where friends and neighbours live, thus reflecting the neighbourhood indicators used. Areas immediately around the house considered as micro areas, were overall considered as being safe areas. Examples are shown below in figures 6.7 and 6.8. The wider area boundaries have places marked as unsafe on them, whilst the micro spaces do not. For figure 6.7, this micro boundary has been created by the presence of a busy road therefore creating this enclosure.

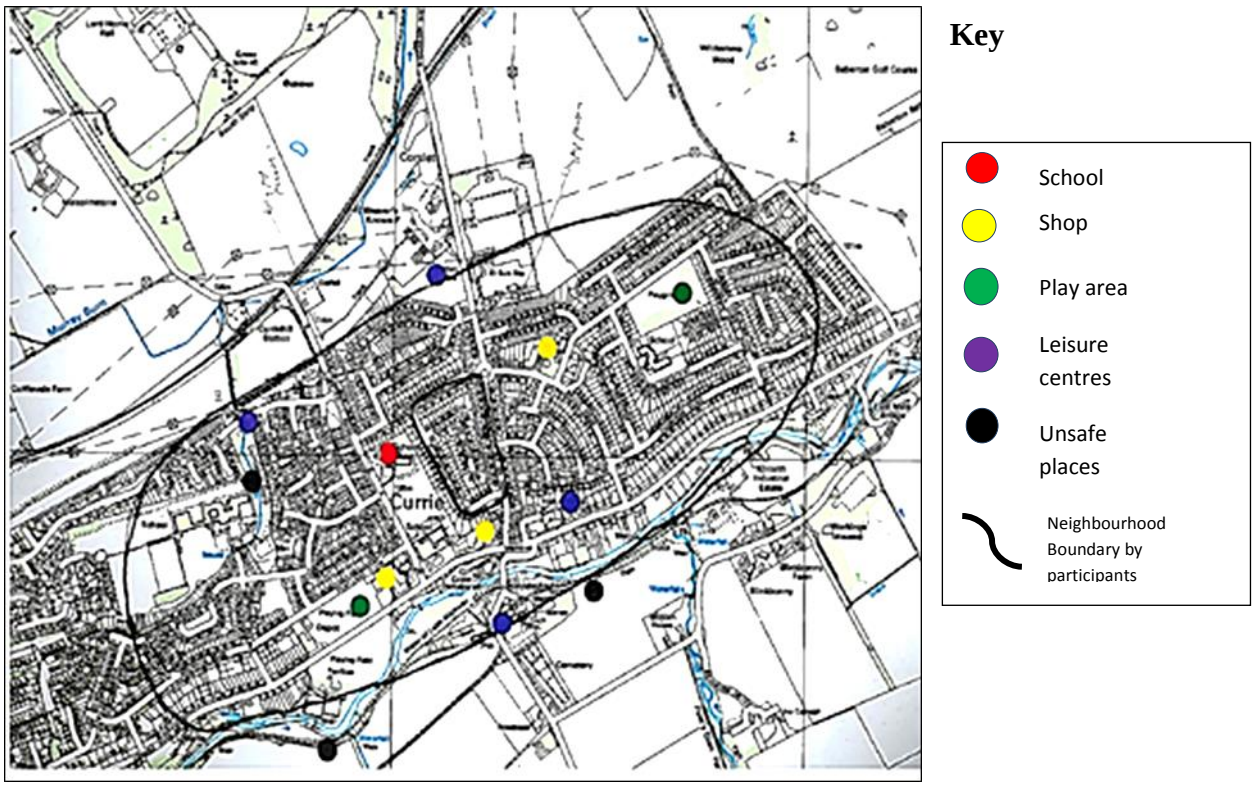


Figure 6.7 Map showing a wider area and a smaller area boundary. Source: drawn by participant CU2 Semi-detached

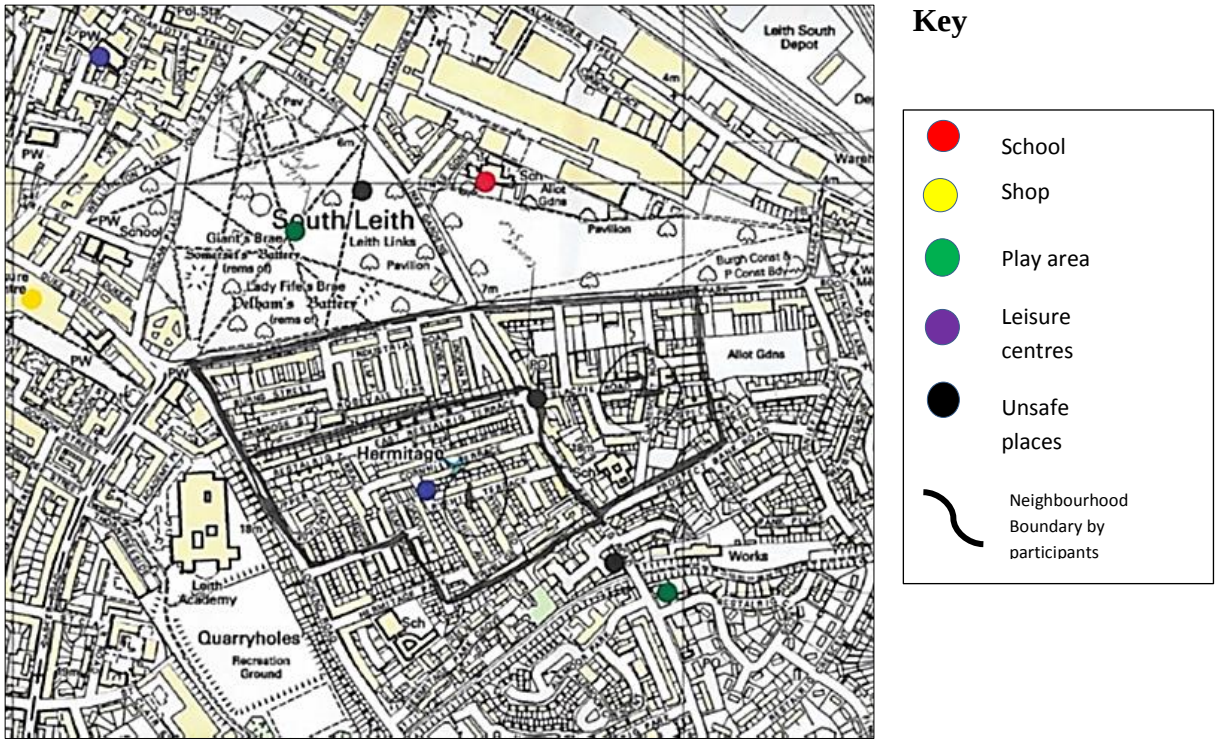


Figure 6.8 Map showing a wider area and a smaller area boundary. Source: drawn by participant RE11 Terraced

For the semi-detached, terraced and 4-in-a-block dwellings, the data reveals that the areas immediately around the dwelling were used intensively for interacting and for meetings. This is because they were considered safe, which could reflect the finding in figures 6.1 and 6.2 from the SMS data:

> *I don't think it is the safest neighbourhood. But this little area ... [pointing to the map areas 1 and 2] is like a little haven of happiness,* [RE11, 4-in-a-block]

The opposite was the case for the tenement and this was due to the configuration of the micro spaces immediately around the dwelling. For the tenement dwellings their micro spaces were different because they included spaces within the dwelling (the block), hence they included internal spaces. These spaces could include the internal stairways and corridors. Some tenement dwellers reported aggressive attacks on the spaces around their private dwellings as a result of the dwellers and the dwelling being targeted. In one extreme case reported during the interviews, the spaces around the tenements in both areas were at times seen as targets for some form of criminal activity. For some tenement dwellers their micro environments were not secure enough to use for interacting. Though they did not show this on their map annotations, they gave accounts during the interviews. The main factor was lack of a secure main door, i.e. either the door does not have a buzzer or a secure system to control entry and exit.

> *The stairways as it is, I love the stairways, but its constantly ruined … because it is starting to look shabby now because of you know the area Piershill, the children from Piershill ... because it's got a reputation, they always seem to want to come into the stairs....*[RE7 Tenement]

> *Anybody can come into the stair... Because it is a stair and it's not a very nice place to be hanging about in... and ...[laughs]* [RE5 Tenement]

Figure 6.9 Images showing the broken stair rail and a notice about intruders in a Restalrig tenement dwelling

Though the discussion is about safety, there seems to be a related point about image. Newman (1972), in his seminal work on defensible spaces mentions that apart from safety, elevated dwellings also tend to have problems with image. The tenements are of a higher elevation than all the other dwellings studied, hence these 'high' or elevated spaces, (which are also micro spaces) are visible and stood out and also created a negative image to their surrounding areas. This though is not always the case as some areas with high rise dwellings house high income earners and will not necessarily have a negative image. But as mentioned in section 5.3.1, the tenement as a term often had a derogatory connotation attached to it due to the further division of spaces to accommodate households which resulted in reducing the value or cost of the space. Adam Walinsky (mentioned in Newman, 1972) explains that this type of housing was built in this way so as to *'keep the poor in their place'*. It could be that the tenements are associated with anti-social problems including vandalism, disturbance, burglaries and many more and hence are considered unsafe to use for many things including social

activities. Section 4.2.3 and section 5.4.1 explain that the areas chosen are average working class areas which are not associated with high levels of crimes or antisocial behaviour. So it seems that the tenements dwellings within both areas should to an extent not have the problems mentioned above, however it was not the case and we can see from an example below. The narrative below reflects this issue of hostility against some of the tenements' micro spaces. This point may not be just about the builtform, however it is strongly connected to the issue of image which has been created by the built form character.

> *…We had an incident recently where the flats were targeted … about eleven, twelve, o'clock at night, my husband and I got to bed.....as we heard something crash into our window…… one of the neighbours had called the police* ... [CU9, Tenement]

Another observation made through the annotated maps was that some of the tenement dwellers did not consider themselves to have a main neighbourhood boundary or even a micro neighbourhood boundary. Instead they presented *one or two or more scattered* neighbourhood boundaries of areas (see figures 6.10 and 6.11) because: they felt safe there, were places they spend time at, were familiar with, have friends living at, or prefer to use. This to an extent was reflected in some of their SMS accounts, as there was no mention of interaction with immediate neighbours in the surveys. See the example below which presents SMS data from a tenement dweller for the duration of the survey. There is no record of interactions around the immediate home environment.

-Went to nursery for group photo and N's tap class then took kids to my mum's.
-Visit from council re recycling bins. Discussed what I recycle and arranged to get new bins
-Dropped kids at nursery at 9 then went into town... Will not be home until tomorrow.
-I was in leith briefly in the heavy rain and picking up some shopping at scotmid in restalrig. Didn't take kids out due to rain but hairdresser and friend visited
-We went for ice cream in Musselburgh with granny and Grampa
-Yes, we went to a party at clownaround soft play from 11-1
[RE3, Tenement]

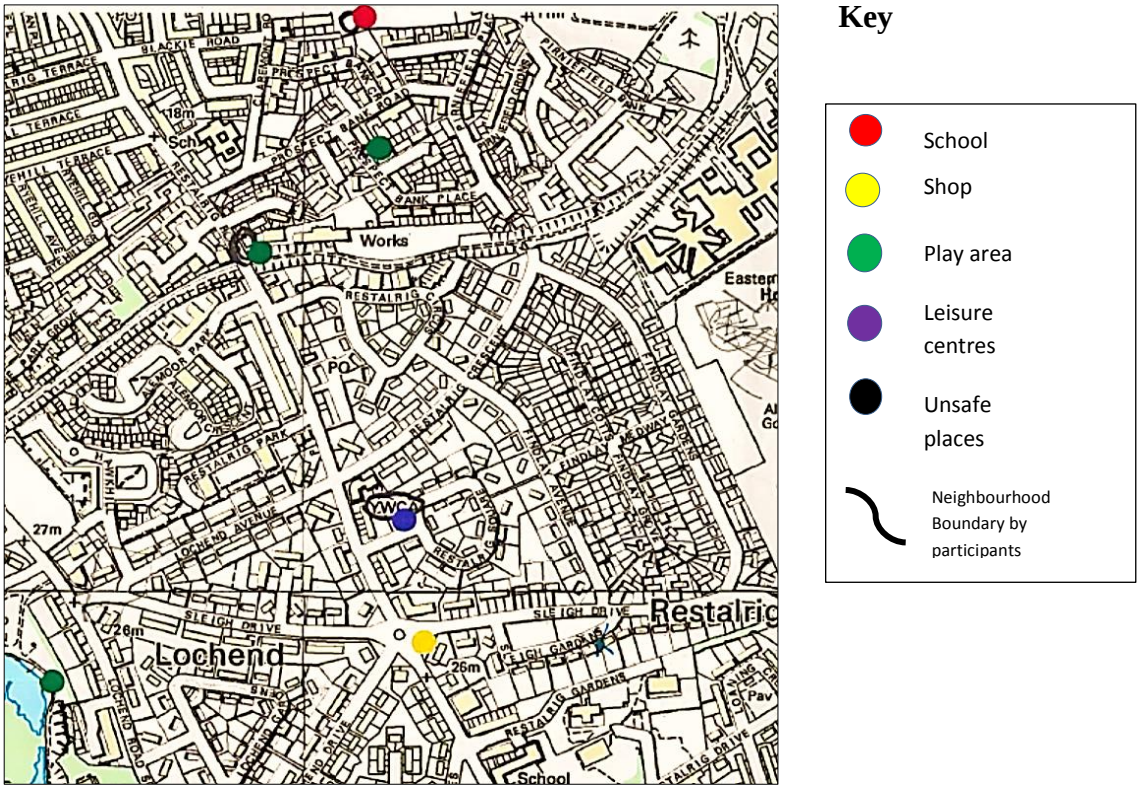


Figure 6.10 Annotated map produced by tenement dwellers in Restalrig, Source: The annotated map is a production of RE3 Tenement

Figure 6.11 Another annotated map produced by tenement dwellers in Restalrig, Source: The annotated map is a production of RE2 Tenement

This fragmented presentation of a neighbourhood is perhaps an unusual situation and the question is what might this imply? One explanation could be that micro spaces, which are spaces immediately around the tenements, are considered unfriendly rather than unsafe as it is not clear if safety is the factor attributed with this non-association. Hence the dwelling could have just a dormitory purpose and as such the dwellers have fewer interactions with their neighbours. However it should be noted as presented in figures 6.1 and 6.2 shows that generally tenement dwellers reported fewer social interactions home or away than the other dwellings. It could mean there are more issues to explore to explain the fewer interactions had by tenement dwellers within their neighbourhood as presented by this sample. It was useful to attempt to understand how these micro spaces were perceived, the sense of proprietorship over them and therefore how this affected their uses.

6.4.2 Perceived territoriality

Territoriality is a sense of belonging to a particular place. It can be felt by residents about space within the residential environment or felt by the public, that they are not welcome in a particular space and place (Cowan, 2005). How a space is perceived in terms of ownership and attachment affects how it is used. With respect to this, an attempt was made to understand how participants felt about the spaces around their dwelling (the micro spaces) and how it affected interactions and meetings.

There was a general sense that participants living in the semi-detached and terraced dwellings and to lesser extent 4-in-a-block dwellings had a strong attachment to the spaces around the house and as such spent more time in these spaces which resulted in opportunities to interact with other people. This was not observed for participants living in the tenements. This sense of territoriality around the private dwelling was perceived to be lower with the tenement, which is the densest of all the dwelling types looked at in this study. To emphasise, there are higher densities than the tenement blocks, but as explained in chapter 5, the interest was not in such higher densities than the tenement and the other three studied. The observation made above relates to Newman's (1972, p52) findings which explains that *'as one moves to denser and denser agglomerations to row houses, walk up flats and high rise apartments, opportunity for individual and collective efforts at defining territory become increasingly difficult'*.

This sense of ownership and attachments (territoriality) is seen to be strongly related to the typology of space categorisation which is: the private, semi-private, semi-public and public (see section 5.3.1). What differentiates the spaces is the level of control people have over it. For example, a public space is one that the general public has access to and the semi-public space is one where some degree of local government control is exerted over when it is made accessible to the public (Biddulph, 2007). 'Control' in this case refers most often to institutional systems such as local authorities placing some rules on a space which prevents the public from using such spaces as and when they please. For residential environments semi-public spaces are not easy to locate. It is easier to identify semi-private and private spaces. According to Biddulph (2007) and Newman (1972) the *private space* is used exclusively by the occupier or owners of the dwelling and they have complete control over the privacy and security these spaces afford. Examples are private back gardens and balconies. *Semi-private spaces 'tend to be private and which a member of the general public will only enter if they have reason to'* (Biddulph, 2007 p44). An example will be front spaces, i.e. the gardens or driveway. Others include communal garden, or even the pavement as a front space. The pavement has been described by Cowan (2005) as having a public space status[32], but it can be argued to have a semi-private or semi-public status too. For example in residential areas they may be used as a place where children play. One thing though is the use of the pavement by the public is by 'moving through' hence it is a thoroughfare. One cannot easily 'hang about' the pavement outside someone's house without inviting some queries. This is even so the case where there are no fences separating them from the front space of the dwelling. In this study, the pavements for the semi-detached, terraced and 4-in-a-block dwellings may be considered semi-private as a result, but essentially they are public spaces. It can be noted that people have full control over private spaces but not over semi-private spaces and being able to control any space is what territoriality is about.

Territoriality and its effect on social interactions and meetings are also connected to space typology. An analysis was carried out to compare perceived territoriality of the space around each dwelling type to the actual space type available. To get the perceived territoriality information from the interview and drawings regarding the size of spaces available to participants was used. Some examples of such spaces were their gardens.

[32] Pavement is the raised surface on the side of a street. This space is for pedestrian use (pedestrian meaning a person on foot). Cowan, 2005 p284

Information about how they envisaged spaces was also used. Examples of such information have been presented below[33].

> *We are lucky for having the parks and ... the parks are quite nice. But I think what is missing is ... because we live in flats ... I would love to have a garden ... there is nowhere private that the kids can play and because the space downstairs is open… anybody could come down so yeah, just because people live in flats ... I don't see any reason why they can't have a garden ... but because most of the private houses have gardens* [CU12, Tenement]

> *So the garden we use an awful lot. Errm my girls had… it's been taken away for the winter ... a big massive trampoline so then all their friends [laughs] spent a lot of time in our garden. We use it in the summer, we have bbq,s we have our meals outside, we ...[laughs] when it is nice weather I like doing the garden plants* [RE12, Terrace]

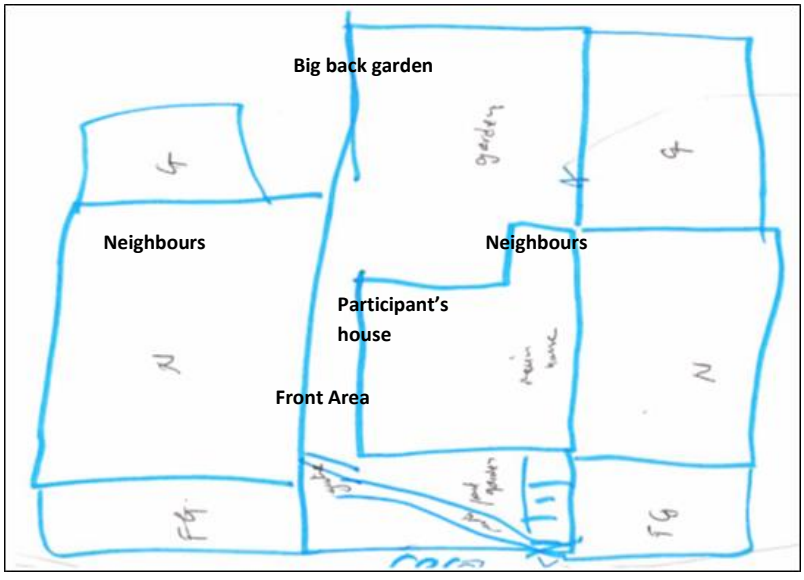


Figure 6.12 RE9 Terrace drawing showing a big back garden

[33] The perceptions of the proportion of space types were captured from the narrations given by participants about their home and the spaces around it.

Figure 6.13 RE14 Semi-detached drawing showing a big back garden

This type of information (see the figures 6.12 and 6.13 above) allowed for average proportions to be assigned to the different space types around the dwelling. The obvious conclusion was that tenement dwellers perceived to have less private and semi-private spaces than the other three dwellings.

In a study by Loram et al. (2007) which looked at garden sizes, it was revealed that the gardens of some terraced dwellings in Edinburgh are on the whole larger than other dwelling types including semi-detached dwellings. The cases observed however in this research did not necessarily reflect this as some of the semi-detached dwelling gardens were larger than that of the terrace dwelling gardens or even the same in size. See the examples below.

Terrace Semi-detached

Figure 6.14 Showing big gardens

90 square metres is the average garden size in Britain as of 2006 (BBC, 2008). From observation the 4-in-a-block dwellings had smaller garden sizes but it was difficult to tell the exact garden size for the tenement dwellings. When considering the amount of garden space i.e. back greens and front spaces allocated to each tenement it can be argued that the overall private space (including semi-private spaces) is larger than the other dwelling types. The tenement blocks observed seemed to have big front and back gardens and therefore averaged over 90 square metres. So in effect there were more private spaces on the whole available to the tenement dweller. Tenements in Edinburgh vary a good deal in nature so what was observed in this study cannot be generalised as the standard.

In this study, it was observed that the semi-detached and the terraced dwellings have *private spaces* in the same proportions to an extent. For the 4-in-a-block dwelling this private space was less. In some instances, the front and back spaces are shared spaces and in other instances each dwelling has a demarcated space hence they have been categorised as semi-private spaces. The tenement dwelling also had more semi private space than the other dwelling types. See discussion on page 118

It was expected that there would be more reports of interactions and meetings happening within the private spaces (i.e. private and semi-private) of the tenement because on the whole there seem to be more private (i.e. semi-private and private) spaces available to the tenement dweller. According to Biddulph (2007) and Newman (1972) dwellings with more private and semi-private spaces have a high level usage because of the sense of ownership attached to such spaces. This therefore increases the level of control people have over these spaces and this then results in high usage and hence opportunities to meet people for social interactions. However this was not the case in this study (see figures 6.1 and 6.2). The simple reason is because the tenement dwellers perceived to have less private and semi-private spaces than the other three dwellings. We can see from some participant's quotes below.

Errrrm ... mmmmh the shared garden, the neighbours don't... you know, we have all got a part of it ... I think it [meaning the block] used to be ...maybe the whole building probably belonged to one person at one time ... and then they just [Tenement RE7]

... a garden ...is like this little space behind their house...whereas in the flat you don't have that [Tenement, CU12]

Their perception of having less private space is based on the fact that tenement dwellers do not have a lot of private space to themselves but rather more to share among themselves. For example, they may share their gardens.

There are a good deal of differences in the nature of the private spaces of the tenement and the other three dwelling types. For the tenement dwelling, its private spaces, apart from the internal dwelling space could be described as more impersonal (no man's land) than that of the other three. See the pictures below in figure 6.15.

Figure 6.15 showing images of the impersonal nature of the tenement public spaces

There is a high degree of sharing of these private spaces among tenement dwellers. The inability to personalise these spaces due to its character and the fact that it was shared seemed to be a contributing factor that prevents the spaces from being used for meetings and interactions. This was applicable to the tenements in both case study areas. Chapter 7 examines the tenement spaces in detail

Established norms in relation to the perception of territoriality

A way to understand territoriality is to look at the established norms with regard to space sharing. There seem to be an underlying issue of conservation or reserve that has been associated with the British and this to an extent was made evident in the study. The

interview data revealed in most instances that people are generally civil and it was standard. The literature in section 2.2 explains that Britain has an individualist culture and hence people are expected to be reserved about sharing their life. Also people are considered as polite, but not necessarily 'open'. This civility spilled over to ownership and use of spaces though there were anomalies observed as discussed below. In some cases, the impression was that people were not comfortable to 'freely' share 'their' private spaces with others. Below are anecdotes to support this.

> *We have tried to be really friendly and have said like 'do you want to come in for a cup of tea' .... and actually the lady upstairs said to me, we don't do that sort of thing ... and I just stood there thinking 'what does that even mean', because we get on really well with them, ... So even in a really nice community like this ... there is still 'your place is your place and you don't sort of cross that line I guess ...'* [CU14, 4-in-a-block]

> *Err ... I suppose with our immediate neighbours, there is a bit of sort of an understanding that you do not get that involved ... I think errm especially I will say like next door to the right they are very errrmmm, they are really good neighbours to have actually because they have kind of helped us when we needed help. Apart from that it is really quite separate and I think that is good* [RE6, Terraced]

> *But also when I first moved in my downstairs neighbours had grandchildren and I think they were used to running through all the gardens and I found that bit off putting and I felt like there was really no sense of privacy. And I think if it had just been like, these are all shared gardens that would have been one thing... but they had their own sort of private space but then also used everybody else and I just find that really difficult to know how to deal with it ... which really put me off using the garden* ... [RE8, 4-in-a-block]

Despite the issue of not 'readily' wanting to share spaces, there were some exceptions to the norm mentioned previously. An example is sharing of semi-private and even private spaces among neighbours living in a 4-in-a-block type of dwelling. All the dwellers were British with two households having similar lives (parents with children of the same age) and the other two households comprising of an elderly lady and a young

couple respectively. Their sharing experiences did not seem to impinge on each other's privacy either of spaces or of lives in some respects. Below is an example of how a private space (kitchen) within a ground floor block, has been made open to the semi-private spaces (the four gardens for the block). (See images and drawings in figure 6.16 and 6.17)

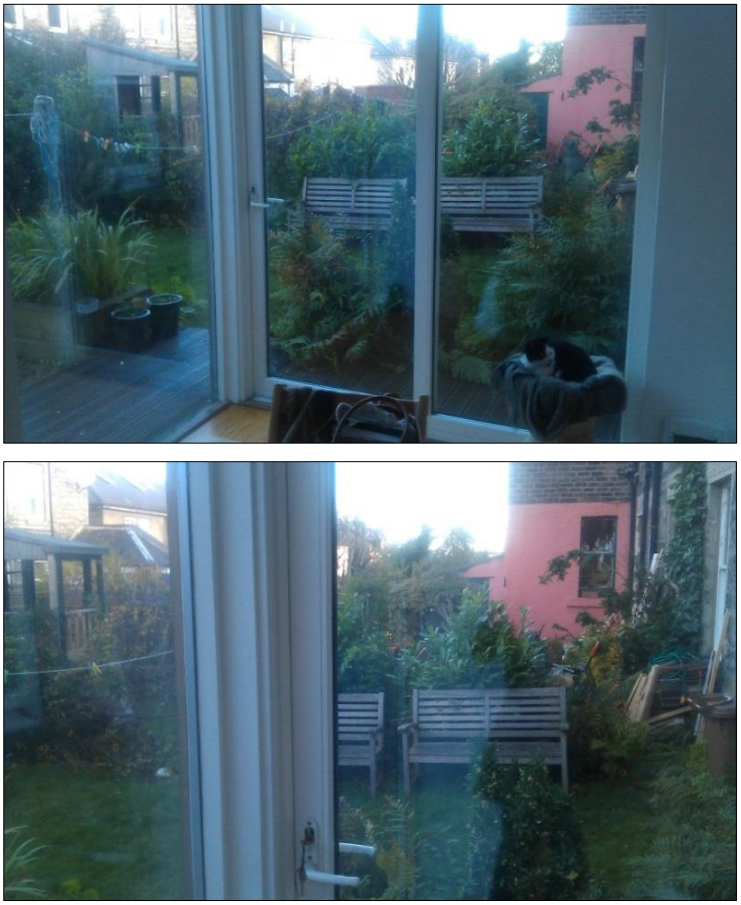


Figure 6. 16 Images of the shared garden which can be seen from an internal space

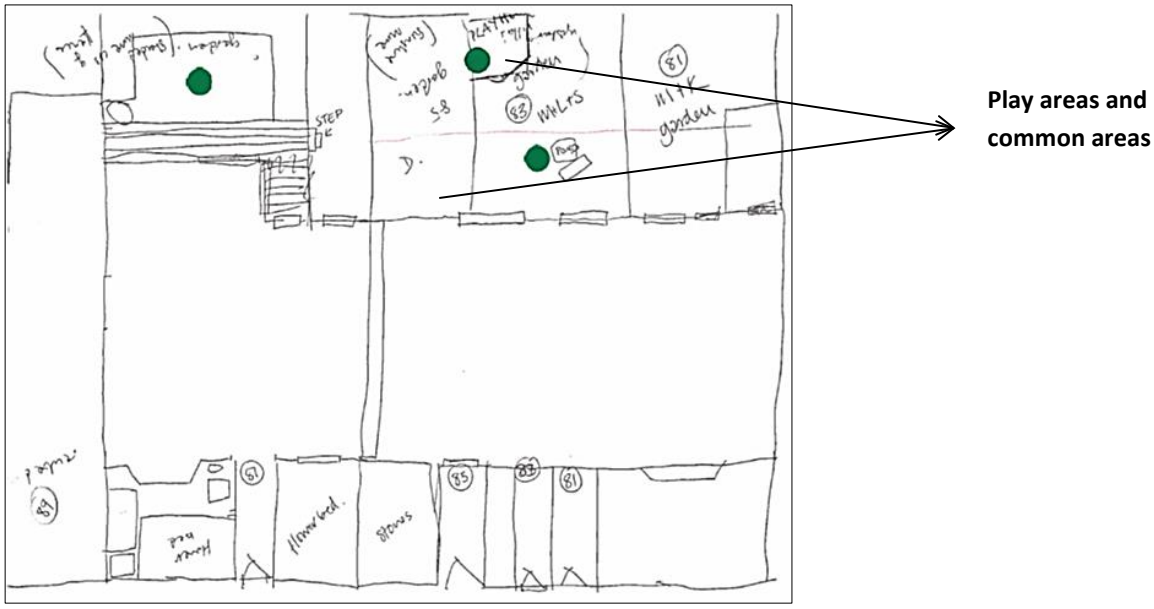


Figure 6.17 A plan drawing of the 4 flats and their gardens, Source: drawing by participant RE10 4-in-a-block

According to the participant who narrates this case below, the sharing of their private spaces is an important element of their day to day lives and she admits that this is not the case in other places she knows.

> *errm it is very nice, yeah … very friendly ... Much more so than the next street down, I think… and I think because we share so much more space here … You have to share it really, because otherwise it's not worth anything. You have just got this tiny little space ... and some people further on that way have put fences it divides the spaces… and says ' this is mine, that's yours' it becomes, then ... so tiny it is almost not really useable for anything. Errm ... whereas here we prefer to having quite a large garden...because we share …in the summer quite often if it is a nice evening, errrm the 4 families if we are all here … we will all have tea together out in the garden... and we just bring whatever we have got and share it outside and have a picnic or a barbeque… in the garden, it will be quite sort of spontaneous ... yeah, but rough and ready... But as the sun goes down, the sun moves, so we have to move … and we end up on N back step, because that is the last bit of sunshine … So it's very nice because we can do that … you know... The way that the gardens are shared … it's just been very fortuitous for us.* [RE10 4-in-a-block]

What was observed was that there were benefits in sharing the space among the 4 neighbours because the space was enlarged (as mentioned in the narrative). 4 gardens

could be used as one big space. Whether this was the motive to opening up to sharing, it is not clear but a possibility. However there was still an element of reservation in using other people's spaces at certain times, even with this case above. This confirms the fact that there may always be an underlying issue of reservation from people which affects opportunities to do things together. However, this does not completely prevent opportunities for neighbours to have positive interactions.

> *Our garden is always in the shade pretty much, because of the extension next door ... and so that is partly why sometimes we use N's garden. Because she gets more sunshine ... but I try not to do that too much because I think it ... well I don't want to annoy her* [RE10, 4-in-a-block]

There is no indication at this point that being reserved, which is the norm, is dwelling sensitive as it seems to cut across the sample and hence the dwelling types. What is learnt here is that the dynamics of interaction on sociability is complex because, for example, excessive sociability has the tendency to erode privacy or create annoyance as noted above (RE8 quote). People are protective of their territories irrespective of where they live, and hence it affects how they use their territories or space around their homes for social interactions.

6.5 Discussion – pulling the evidence together

The chapter examined a number of societal issues regarding how people meet and interact with each other within the residential environment. Firstly, it looked at the character of the sample and their general interaction pattern and found that participants from Restalrig report more interactions within their residential environments than Currie. Another finding was that tenement dwellers reported fewer interactions either home or away than any of the other dwelling types.

When the chapter looked at activities, it discovered that everyday essential activities are plentiful within the residential environments and they tend to produce unplanned interactions. Tenement dwellers within both areas again reported fewer unplanned

interactions on the whole. Occasional activities which to a large extent were as a result of planned interactions and vice versa were of course not plentiful within the residential environment. Everyday essential activities can become occasional activities and also result in planned interactions among neighbours, but this is dependent on the character of the group undertaking the specific essential activity.

The second half of the chapter looked at perceptions and how this affects social interactions and meeting among resident. What it found was that with regards to safety, people create pockets of areas within the wider area where they feel contented to interact with people within (see section 6.4.1). This point about creating pockets of safety hubs can be related to Newman' (1978) point about atomization mentioned in the literature. This is a concept relating to people using or clustering in areas normally close to dwelling which are classified as spaces that are safe. The reasons could be because the spaces are within hearing range or are under indirect surveillance, meaning people can see these spaces without necessarily watching it. Again the identification of pockets of areas within a residential area was associated mainly with tenement dwellers, especially in the Restalrig study area. See figures 6.10 and 6.11 which shows maps produced by participants showing a number of areas within a main area, identified as neighbourhoods.

In terms of territoriality, which is the sense of ownership of space by a resident within the residential environment, the evidence from the data shows that tenement dwellers perceive to have less private spaces when in actuality they have more than the other dwelling types. However their private spaces are shared spaces. For examples their private gardens are shared gardens which therefore affect their perception of what is private. The preceding sections which discussed 'the activities of the sample group' and their perception and image given to the place also show that the tenement generally recorded fewer interactions with neighbours, even when they are similar to them and with people in the wider environment.

At this point it is beneficial to look wider at the evidence for dwellings types similar to tenements. The general argument has been that where the density of people is higher, there is the tendency for more interactions (Gehl, 1986 and Newman, 1972). However the problems associated with high density dwellings (such as lack of privacy, annoyance through sharing, aggravation and lack of person space) can result in fewer interactions

(Newman, 1978; Bramley et al, 2009). It is posited that the higher the dwelling density and height, the greater the social problems recorded. Jenks et al, (2010) reported similar findings about high density developments recording lower scores regarding neighbouring interactions among other factors which could reflect issues regarding less encouraging interactions happening in the high density dwellings. The high density dwellings referred to in this study are of a lower density than that studied by Newman (1972). But some of the principles are applicable. Looking at the data/evidence, there was a general sense from participants and even those who do not live within the tenements that the tenements were not friendly places for social interactions.

> *I have lived in houses and I have lived in flats and I mean probably … you're up here doing your own stuff ... so I would say that flats are probably the most anti-social places you could live in … errrm it's just human nature I think … I find that if you live in a flat...it's hard to explain... but it's almost...it's almost like you are cut off from your neighbours … I have lived in flats in Edinburgh … and you don't really know your neighbours ... you know it is the strangest thing ... you can be so close to somebody but ... I mean I have lived in flats where I just haven't known who my neighbours are at all.* [CU12, Tenements]

> *It is difficult to know whether it is the layout or the life stage ... that I am at. Because certainly where we lived before was in tenement and that did feel pretty unfriendly. You know you are in the building and you are living in the building with lots of other people but you generally don't see them or you might say hello when you pass then on the stairs and then you often have issues with noise and stuff* ... [RE8, 4-in-a-block]

Although the implication is that tenements have fewer interactions because they are not always favourable to social interactions, it is not considered the case by some tenement dwellers. Some believed that there are more opportunities to interact more with neighbours in tenements (flats) than one would within the houses. This was because they had the experience of living in houses as well as in the flats.

> *I have lived in flats before and ... and I have lived in houses before actually, probably ... probably more houses than flats ... I would say the interaction in*

> *flats is… is about the same is about the same as other flats I have been in. Houses, you obviously come into ... there is less chances for contacts with neighbours. The frequency is lower ... so the interaction is lower in houses in general I find …errrm so that's the two comparisons.* [CU9 Tenement]

There could be another argument of perception versus what is really happening to be considered in this case. Another could be that the period of investigation (i.e. during the research period) revealed what it did than what is perceived than what might be the case. However there is a reliance on the SMS data which gives an idea of how social interaction happens on a day to day basis within the different dwellings. Also when triangulated with other data sources, this consistently showed that tenement participants were generally not interacting either at home or away.

6.6 Conclusion

Though the chapter began with looking at the social problems that affect the opportunities people have to meet and interact, the outcome of the discussions is that the nature of the spaces available within and around the private dwelling of the tenement dwellers is the factor that affects the social factors that affect meetings and interactions. There is the possibility that there are social factors such as tenure and image resulting in stigmatization that should be considered.

However it is complex at this stage to discuss this. It is acknowledged that (also mentioned in chapters 4 and 5) the different residential dwellings types are homes to different social groups. The sample group were located within areas where all dwelling types are contained. It is believed that the sample group were located in an area where there is a fair social mix. However, the socio-economic status data gathered from all the participants showed that all the tenement dwellers rented their homes and most when compared to the other three dwellings fell within the lowest band of the income level range used in the study. It is therefore not clear if according to the sample, those living in the tenements were in any way disadvantaged compared to their counterparts who lived in the other dwellings, or whether the tenements attracted people of a certain

social class as compared to people living in the other three dwellings which might have affected social interactions.

The perceived versus actual space typology analysis revealed that the proportion of overall private spaces for the tenements was more when compared to the other dwelling types. Private spaces as mentioned here include the private dwellings and areas used by the dwellers of the house only. Therefore the tenement spaces seemed to be ‘wasted’ because of their low level of use for sociability. Chapter 7 will discuss these spaces in detail, which might explain their character and how this affects social interactions.

Chapter 7 Meeting places

7.1 Introduction

This chapter attempts to answer the research question 4: how does positive social interaction arise from space use within the different residential built form types? Particularly sub questions 4 b: *where do people meet to interact and which space is the friendliest interactional space?* This chapter looks at the physical places where the participants interact. In doing this, the chapter will focus on spaces around the different dwellings. This is to appreciate the differences in the spaces attributed to each dwelling type and how this might therefore affect social interaction. From the previous chapter, it was realised that the participants living within the tenement dwelling type reported fewer interactions with neighbours than the other dwelling types did. However, rather than concentrate on the character and nature of the spaces of the tenement dwelling type, the other dwelling types have also been looked at to help appreciate the dynamics. In terms of structure, the first half of the chapter will discuss findings from the SMS survey which revealed places and spaces where social interactions happen from the most to the least. Following this, the chapter will examine each of the spaces and identify what makes them conducive for social interactions.

7.2 The meeting places categorised

The interview data gave information about places people use to interact; in addition the SMS data helped to make it clear how often these places are used. To get a sense of where people met and interacted more frequently, this question was asked in the SMS survey; where did you meet them?[34] The question captured meeting places both close to home and beyond, however interactions had further away from home were discussed in chapter 6 section 6.2. As mentioned previously, this chapter will discuss immediate neighbourhood interactions had within spaces close to home, with the intention of capturing space use within the home-patch. Figure 7.1 below shows the places where

[34] This is the third of the SMS question asked. It follows these two
-Have you met (chat, waved etc) anyone in your immediate or wider neighbourhood today?
-How many people have you met?

people meet and interact. All places mentioned by a participant during the SMS survey were marked as ‡. Therefore the symbols represent meeting places per persons. For example, the participants living in the terraced and 4-in-a-block reported more street interactions than the other dwellings did overall (during the entire duration (5 days) of the SMS survey).

	The dwellings			
Places/Spaces	**SD**	**TR**	**4BLK**	**TN**
In the house	‡‡‡	‡‡‡‡‡‡‡	‡‡‡‡	
Front area i.e. drive or garden	‡‡‡‡‡‡‡	‡‡‡‡‡‡‡‡‡‡	‡‡‡‡‡‡	‡
Back garden	‡‡‡	‡‡‡‡	‡‡	
Stair way				‡‡‡‡
Common areas				
Street	‡‡‡‡‡‡‡‡‡ ‡‡‡‡‡	‡‡‡‡‡‡‡‡‡‡‡‡‡‡ ‡‡‡	‡‡‡‡‡‡‡‡‡‡ ‡‡‡‡‡‡‡	‡

‡ - meeting places reported in Restalrig ‡ -meeting places reported in Currie

Figure 7.1 Places used the most for interaction within the home patch

Both study areas are looked at concurrently because the meeting places in most instances have the same design principles. Each place mentioned in Figure 7.1 above represented a varied array of places. An attempt has been made to categorise these below (see Figure 7.2). The categorisation was carried out based on proximity, transition of one space into another and also the similarity of the mentioned places.

In the house (private space): through my window, neighbours house

Front area (private space): door step, front garden, front drive, front gate, neighbours door,

Stair (pemi-private space): stair

Common areas (semi-private areas): back green of tenements and open courtyards

Back areas (private space): back gardens, over fence, back yard, and garages at the back

Street (public): along the, bottom of the, across the road/ street, pavement, my street, opposite neighbour, nearby street,

Figure 7.2 Categorisation of meeting spaces and places

The categorisation above puts a majority of these places under private (including semi-private) spaces apart from the street. It has been mentioned in section 5.3.1 and 6.4 that the private space is used exclusively by the occupier or owners of the dwelling and as such they have complete control over the privacy and security these spaces afford (Newman, 1972; Biddulph, 2007). The concept of semi-private for a space is when the space is shared between two or more persons who are the only people who have the sole right and access to that space (Newman, 1972), for example, a shared garden.

The use of the terminology semi-private might be a bit precarious due to the perception of ownership and the nature and the character of the space. These two (the perception of ownership and the character of the space) are not mutually exclusive. For example, the design of certain spaces could prevent people from taking ownership of it even though by character the space is semi-private (i.e. shared between two persons who could be neighbours). Newman (1972) gives an example of how some internal spaces such as the door step of a private dwelling (flat) within a block of flats called projects in the United States of America (USA) are seen to be uncongenial spaces and as such are considered to be the responsibility (in terms of ownership and for maintenance purposes) of someone else, in this particular instance the local authority. As such these spaces are not patronised in any way for anything because the sense of proprietorship can be said to be almost non-existent. The defined zones for the semi-private spaces are also an issue to be considered. Whereas for private spaces, the defined area (boundary) is in most instances clear, for semi-private spaces it is not always that clear. As the discussion progresses the issue of the fuzzy boundaries will be highlighted through examples.

To proceed with examining the different types of spaces mentioned in figures 7.1 and 7.2, further categorisation has been made of the spaces into spaces where planned and unplanned interactions happen. Section 2.2 explains the differences between planned and unplanned interactions. The former, as the name suggests, is organised with an intention to achieve something and as a result is likely to happen within spaces that will enable the intended objective to be fulfilled. The latter is not organised and can happen within any space which is often to serve a common purpose for the persons who meet within it. Unplanned interactions as mentioned previously are transitory in nature and as a result are likely to happen within spaces where there is no intention to stay for longer than necessary.

We learn from the literature that unplanned interactions which are as a result of weak ties and thin trust are plentiful. In that case understanding the spaces within which these plentiful unplanned interactions happen will help in considering design interventions that encourage or bring out positive elements of these plentiful unplanned interactions. The literature again explains that people are happier when they are around other people (Kahneman and Krueger, 2006). Providing a convivial residential environment for such meeting (which are mostly unplanned) is likely to further enhance their happiness.

The front area, the back area for some, the stair and the street have been put under places where unplanned interactions happen and the inside of the house and also the back area have been categorised as places where planned interactions occur. See table 7.1 below.

Table 7.1 Showing places where unplanned and planned interactions happen

Unplanned interactions	**Planned interactions**
front area stair street common areas	back areas shared areas

To an extent it could be said that the places where unplanned interactions happen are semi-private and also public whilst the places where planned interactions happen are private spaces. Planned interactions that happen in other settings like the park, a cafe or an eatery are excluded and the reason is because the study is interested in examining interactions in places and spaces surrounding the home. The places mentioned in the table will be examined individually in the following sections.

7.3 Places for unplanned interactions

These areas are the front area, the stair and the street.

7.3.1 The front areas

The term front area as opposed to front garden has been used because not all the dwelling types can describe the space at the front as gardens. The front areas are essentially, the area from the door step of the dwelling to the pavement in front of the house. The space is usually fenced and made up of either gardens or a paved space and a driveway and sometimes a front gate. The fences and gates are usually to the height of about 3 to 4 feet. These features were prominent/common among semi-detached, terraced and 4-in-a-block dwelling types. McIntosh (2013) adds that a benefit of the front garden is that it provides a 'clear' boundary from the public street and also they are the first impressions given of a person's home.

For tenement dwellings two front areas were identified. The first is the space outside the main door of the private dwelling or flat, which could be located either within the tenement block, or outside the tenement block. The latter is for private tenement flats with a main front door. Some ground floor tenement dwellings had a main front door and therefore do not use the common access door (see images in figure 7.5 for the two types of front spaces). The second front space of the tenement situated at the front of the entire block was considered to be a semi-private space, because the space was shared by all tenants. This space type has therefore been discussed as communal open space. in this study, it was observed that the spaces in front of the private dwelling of the tenements including those ground floor flats with a main front doors are usually smaller than the back spaces covering about 5 – 10 square metres. The terraced and 4-in-a-block dwelling type and the semi-detached front space vary. Some semi-detached dwelling types which had driveways will have a wider front area covering about 20 square metres. Cars could be parked in this space. From observation, most terraced and 4-in-a-block and also tenements dwelling types parked their cars on the street. The semi-detached, terrace and 4-in-a-block had direct access to the front area. As such the area at the front was characterised as their own and not a shared space.

Space use

The front area served as a transitional zone into public areas, especially when the participants were embarking on their necessary daily activities. As a result they were influential spaces for social interaction as they are unavoidable (natural use area). The front area afforded a variety of interactions but they were mainly unplanned. Planned interactions did not usually happen at the front. The interviews and the SMS data also confirmed this. For example, people could interact with others either passing by or just as they were coming out of their homes to go to school or to work and also through their windows. The latter type of interaction afforded the 'eyes on the street' scenario with the benefit of surveillance (Brown et al, 2008). Below are some quotations explaining the naturalness of unplanned interactions and space use afforded by the front spaces.

> *...then it will either be in the drive way... For example if we are both heading out to the school the same time, we chat...* [CU5 Semi-detached]

> *most likely will be in the front street at the front of the house...I mean....we often see the neighbours from the living room window, which faces out the front so we wave and what not... At the front, these gardens here the 2 bottom ones, they are lower fences they are only about errrmmm, I will say 3 or 4 feet…So if you are in the front garden well you can talk over the fences or to people I will say* .[RE1 4-in-a-block]

> *The most likely will be out the front of the house...This will be when people are going into their gate so ... as we are all going in and out ... so I will be standing around here [marked on the drawing].... so we kind of chat on our way in and out of the house... It is kind of a throughway so... it's more, even though as you say it is kind of sometimes unavoidable, it is more a natural situation.* [RE9 Terrace]

Some participants explained during the interviews that these front spaces were not used for meaningful interactions because of design issues. This seemed to cut across the three 'low density' dwelling types (semi-detached, terraced, and 4-in-a-block). We see from the examples below.

> *The front garden, we don't use it as much because the way it is laid out ...it is north facing and it is not a nice garden to use and it's on the street. So we don't*

really need it. The back garden is what we concentrate on.... [RE12 Semi-detached]

We have got.....a very small front garden... which I don't really [laughs] it is just a little path I wouldn't be [RE8 4-in-a-block]

According to Hall's (1966) assertions, meaningful interactions such as chatting could not be had in that space because of their size. Interacting within such spaces will mean encroaching into another's personal space which is not acceptable because of the territorial nature of man (Lang et al, 1974). Lang et al, (1974) explain that every human has a 'personal bubble of space' (p215) called dynamic space. This affects how people communicate with others within any space. Apart from the size of the space, the front area is almost always linked directly into the public realm as mentioned previously, therefore making it unsuitable to stay in and use for any meaningful social activity. To give a clear picture of how the front area connects directly with the public space/areas we can see from the vignette below.

And in actual fact, when we first moved in, I didn't find being in the sitting room...which faces unto the street that relaxing... because it just felt so public and also because I had a new baby and I was grappling with breast feeding and I felt I might as well be sat on the street breast feeding... It's actually... our kids frequently wave to each other through the windows… and that is really nice. [RE8 4-in-a-block]

This participant explains how the link between her private space and the public space, i.e. the street created issues of discomfort with regards to using even her internal private dwelling space. The same participant also reported interacting with neighbours through the front windows during the SMS survey.

In Restalrig participants used the front spaces a lot more than those living in Currie. The high usage shown by the 4-in-a-block dwelling participants in Restalrig, over those in Currie, can only be attributed to the fact that only one person living in the 4-in-a-block dwelling type in Currie participated in the SMS survey compared to the 4 people that did in Restalrig. Below are some examples of front areas.

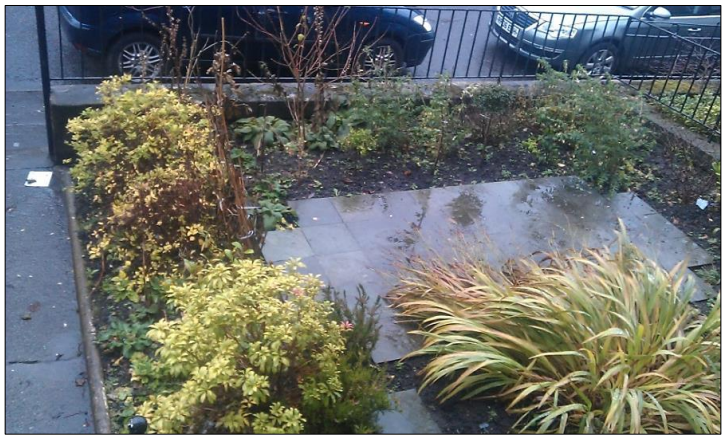


Figure 7.3 Images showing various front spaces (building type – 4-in-a-block)

Although for all the dwelling types the case was that the front area was used for unplanned interactions more than anything else, some dwellings types reported lower usage than the others. Figure 7.1 shows that the sample living in the Semi-detached, Terrace and 4-in-a-block dwelling types used the front spaces more than those living in the tenement dwelling did. This is expected, considering that the inside front spaces of the private tenement dwelling and even the front area of the main door access were small in area or thoroughfares for some floors or shared or overlooked spaces. See figure 7.5. The areas in front of the private flats located on the first and second floors, were thoroughfares areas which explains why interactions did not happen within it. For some they referred to the front of their private dwelling as the stairs. Section 7.3.2 below discusses how the stairs is used for social interactions.

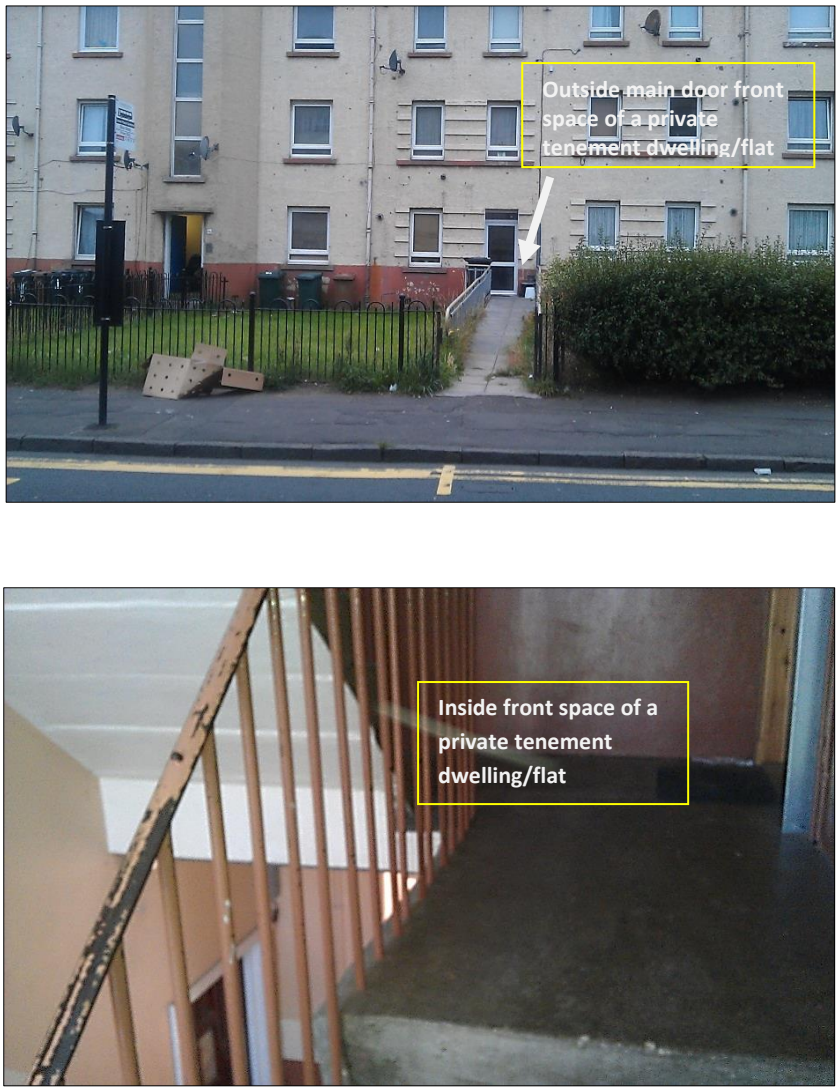


Figure 7.4 Showing examples of front areas within the Tenement dwelling

So far, the front area is seen as a place for unplanned interactions. From figure 7.2, the front areas (especially immediately outside the flats) are private personal spaces where the occupant has complete control, as such it would be expected that this area will be used for planned and meaningful interactions rather than unplanned passive ones.

As mentioned in previous paragraphs, these spaces are usually small and can be uncomfortable to spend time at, to communicate with another for a longer period of time. Lang et al. (1974) explains that people are territorial and therefore need personal space. The literature showed that spaciousness was a strong factor in influencing meaningful social interactions therefore it explains the lack of planned interactions happening at the front of the dwellings. Refer to sections 3.3.2 and 3.4.1. However the lack of space did not always pose a deterrent to planned social interactions. For one participant, her front area being a private space made it preferable for social interactions with neighbours.

> ***Interviewer: Why is the front drive preferred?***
>
> *Participant: ... just it's your own territory and you feel more relaxed in your own territory, not ... I am not aware of having an issue with privacy ... but I think it might just be that whole thing of when you are at home ... you are yourself...* [CU7 Semi-detached]

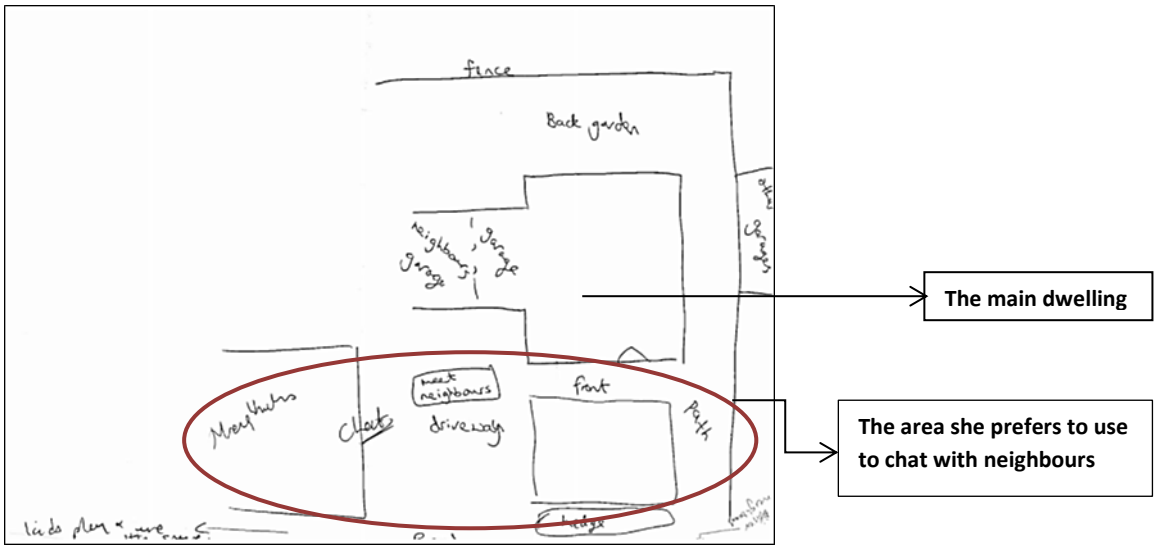


Figure 7.5 Participant CU7 produced drawing of the front area where she prefers to chat with neighbours.

From the observation made when the dweller has an element of control over the front space, it encourages meaningful interaction with others in this space. The question is, how is this control given? A way is through design schemes, i.e. ensuring that the front area has a degree of privacy even though it is directly attached to the public space, like the street or the stairs in the case of the tenements. Also providing a wider space area at the front will be beneficial. This is said because of what the literature says about spaciousness.

From the paragraphs above, some participants did not like the front because they felt it afforded no privacy. In this case, again from the literature, providing a soft edge which serves as a buffer between the private front space and the public street space is useful. From discussions above, a proposed model to make the front space favourable for social interactions is *a* ***partial enclosure which provides some level of privacy but affords connectivity to a public realm, plus a high level of control over the space.*** This will in turn increase front area social interactions.

7.3.2 Stairway

The stairway may be described as a semi-private space simply because it is shared by the tenement dwellers. The public, for example like the post man and the visitors, may use it, but mainly out of necessity and nothing else. It is a feature associated with the tenement dwelling only and it can be described as an internal vertical pathway that is used to access all dwellings within the tenement.

Use of stair space

A few participants mentioned using the stair as a place for interaction which was all unplanned. The fewer number of interactions reported in figure 7.1 is attributed to the fact that only the tenement dwellers provided information about its use. It might not mean it is an underused area for social interactions in general, however an observation made in this study is that the stair was not a popular place for interactions for a number of reasons. The first is because the stairway is a thoroughfare and hence had a no man's land character which is often a factor that prevents people from using a place for social activities. Coupled with the no man's land character, the exposed nature of the space

poses as a problem. Though the stair has a private area status and is enclosed felt it is often exposed to use by anybody.

> *Because it is a stair and it's not a very nice place to be hanging about in....* [RE5, Tenement]

Secondly, the size of the space perhaps prevented it from being used for convivial purposes. The width of the stairway space was about and up to 1.5 metres wide (observation and measured). The landing areas (see figure 7.7) were also of this same width, hence making the stairway a narrow space for meaningful social interactions. Within the stairwell of the tenement dwellings, the spaces in front of the main doors of the private dwelling in conjunction to the stairwell were not roomy enough to allow for a meaningful and non-imposing interaction with people. This is explained by Gehl (1987) and Hall (1966) with regards to the appropriate distance for interacting. Communicating within such small spaces is an encroachment into a person's personal space. For example when communicating on the stairwell, even without having to stand across from each other one person has to stand up and another down to communicate, which at most times did not encourage long standing conversations. It can be said here that the stair was therefore used as a functional space only and not a social one, which resulted in only unplanned interactions happening within the stair rather than meaningful planned interactions. This is expected because the stairs are not designed as social spaces for planned interactions. Below are examples of quick interactions tenement dwellers had with each other when using the stairway.

I met my neighbor in the stair and said hello :)
I bumped into my neighbor in the stair today and we had a quick 30 second chat on the passing about his baby. It wasn't planned. [CU11, Tenement]

Hi just my neighbour downstairs. We said hello how r u and spoke to his cat who was coming in [RE7, Tenement]

A third reason why the stairway was not used very much for social interactions is do with the issue of control over the space. Yancey (1972) describes the stair as private space but where no one is held accountable for much that happens within it. We see from previous discussions that the inability to control space is a major issue which affects how it is used for social interactions. It was perceived that tenement dwellers did not feel that they owned these spaces and this might be for the obvious reason of it being a thoroughfare. The only space perceived as private was the internal dwelling. The private space which is the private dwelling is the smallest space, whilst the semi-private spaces, which include the stairway and common or shared areas (back and front spaces), are larger. The semi-private spaces though shared, could be considered still as private, but they were treated as public spaces and rather avoided to an extent. It is important to emphasise that these characteristics can only be attributed to the tenements observed in this study and that tenement dwellings vary a great deal in Edinburgh.

According to Newman's (1972) study of high rise flats, also called projects in the USA, the semi-private spaces immediately outside of the flat were not considered the responsibility of the occupants. The spaces immediately outside the flat included the stairs and also landings. Though his study looked at high rise developments, the same principle is adapted and applied in this case to explain perhaps why the stairway spaces were not that sociable. One thing observed however was that despite the minimal control people had over the stairway space, there were some attempts by the dwellers to make these spaces their own, reflecting the point made by Lang et al. (1974) that man has the incessant need to be in control of space as this influences behaviour. At this point it will be useful to look at some examples. Within the tenement stairway, there were three types of spaces the layout of the stairway afforded the tenement dwellers (see figure 7.6, 7.7, 7.8). Space type *a* (figure 7.6) is the ground floor, space type *b* (figure 7.7), which is the first or second floors (depending on whether there are 3 or 4 storeys) and then space type *c* (figure 7.8) is the uppermost floor. Space type *c* was almost always used for storing personal items because they were not thoroughfares and hence they afforded this opportunity. What is not known is if the differences in the space types also influenced different forms of interactions within the stairway. Future studies will be useful.

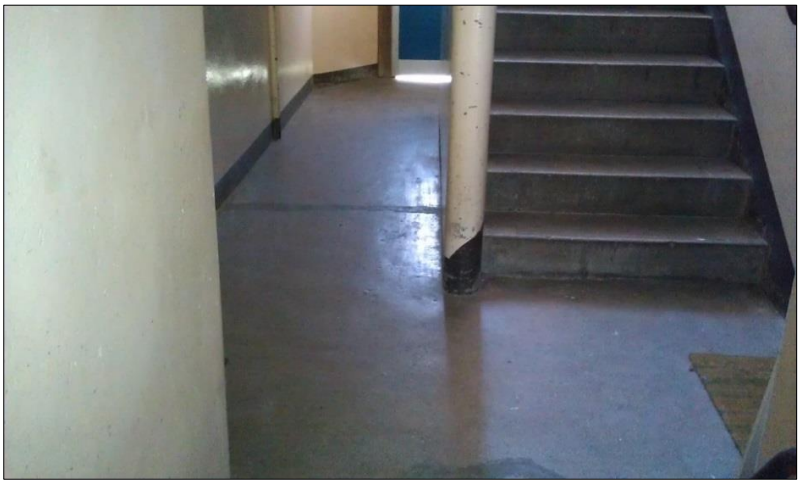


Figure 7.6 Tenement ground floor space type (thoroughfare)

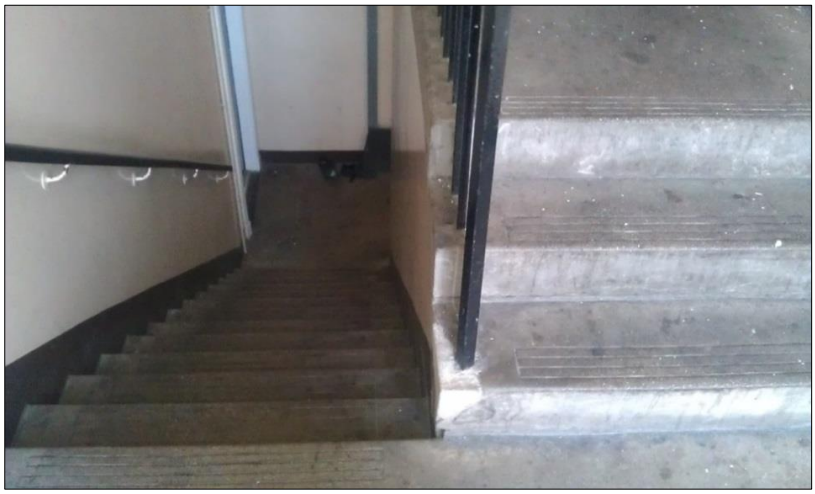


Figure 7.7 Tenement first or second floors space type (thoroughfares)

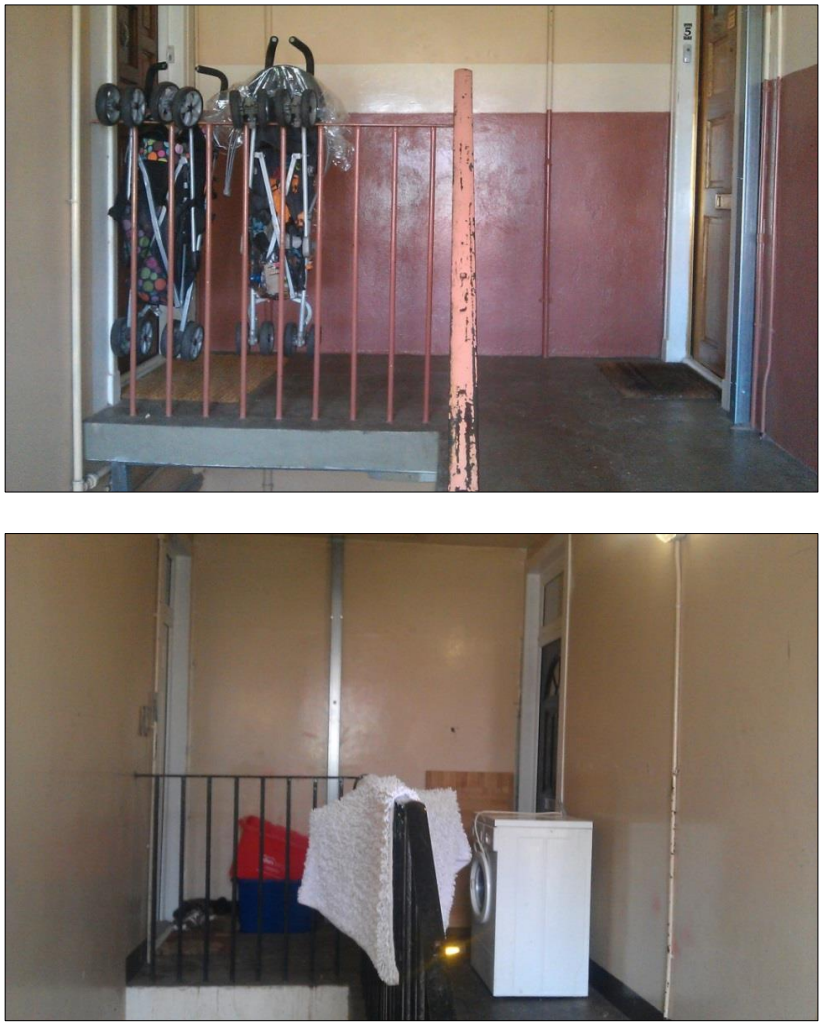


Figure 7.8 Images (a and b) showing the tenement uppermost floor space type

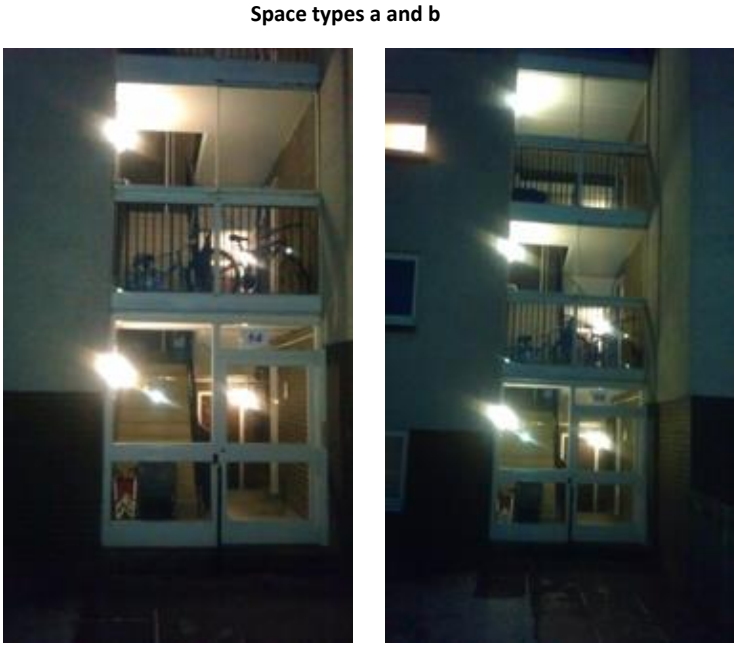


Figure 7.9 Space types a and b in one view

In some instances spaces a and b were used to store personal property, for example buggies and bicycles. This was the case in both study areas and even in other areas that were observed. The use of this area for storing property could give a meaning to how this space is regarded. Though it was not used a lot for interacting, it was convenient to keep things in it hence giving it a status similar to a garage or garden shed. This suggests that it is considered quite private.

A fourth reason why the stair might be used for unplanned social interactions is security and safety. In chapter 6 it was observed that safety has an effect on using a place for interactions. The stairway was in most instances, not considered a safe place and therefore was not an appealing place for people to interact in. The following anecdotes from participants from Restalrig reflect this. The reason for the narratives from Restalrig only and not Currie, is because the tenement dwellings in Restalrig, had no secured main door as compared to Currie, who had main doors with intercoms. However this added feature of security did not particularly make the spaces conducive for social interactions.

> *Errm, the lights quite often don't work in the stair, so sometimes you come in and it is pitch black, which is a little bit scary...[laughs]... and we don't have locked stair door .... we don't have a locked stair door... So anybody can come in and out* [RE3, Tenement]
>
> *Because it is a stair and it's not a very nice place to be hanging about in ... and ...[laughs] This stair doesn't have any intercoms in it....* [RE5, Tenement]
>
> *Errrm, the stairs itself, you can't leave bikes, down there ... If you notice, when you go down there is a big gap that somebody saw in away and have ruined it.* [RE7, Tenement]

A possible convivial space

Despite these aforementioned spatial inadequacies which make the stairway unfavourable as spaces for social interactions for some, this was not the case.

> ***Interviewer: which area do you prefer to maybe stand and chat with somebody the most?***

Participant: Errrm ....maybe in the stairs I suppose or at my door.
Interviewer: Why?
Participant: Just it's warmer... [laughs]. Like I suppose you can stand in all weathers, it if is too hot you can stand in the stairs and keep cool, if it's too cold you can stand in the stair and keep warm [laughs] errrrm ... and also I think like I find it is ... more ... in the stair or in...in the house or at the door ... I think like also the kids.. If I am out with my children ... and somebody stops and talks to me, I can listen to them ...I don't have to keep going like... 'A' don't run out... don't, 'O' don't run away'. Like I am talking to them and they are restricted to the stair, they can't go anywhere so I am able to talk easier without worrying about where my kids are running off to.... [CU11 Tenement]

The participant above preferred to use the stair for interactions and the reasons were, it was warmer to use than the external spaces were and the degree of atomization was high. Atomization as explained in the literature is the act of using spaces close to spaces that are known and considered safe as a result. The participant above could perhaps not see into her adjoining internal private space, but she could hear activities that went on inside this space. This to an extent gives her some degree of control of the space, which is an important factor for agreeable space use.

With this in mind, perhaps a model for making the stairway space sociable is to consider increasing the minimal level of control tenants have over the space. Increasing the level of control could be done by increasing the sense of dwellers' ownership of the stair space through design schemes. It has been observed from previous paragraphs that: the stair space is a thoroughfare with a high people passage use; is not spacious with widths as wide as 1.5 metres and landings being about over 2 metres wide, and is often considered as not safe due to lack of secure front doors without intercoms. These issues contribute to the tenement dweller's lack of sense of ownership and therefore control of the stair space.

Designs schemes aimed at improving the use experience of the stair with particular emphasis on making it more personal as well as personable could consider; increasing the space area of the stairway corridor to solve the issue of spaciousness, making the space safe by providing a secure system via doors with intercoms and also decorating the stair space with ornamentals such as carpets and potted plants. From discussions above, a proposed model to make the stairway space favourable for social interactions

is, in ***increased control through increasing space, improving security and creating an aesthetically pleasing outlook.*** This is likely to increase social interactions.

7.3.3 Street

The street is a major element within the home-patch used for daily social interactions. All dwelling types use this space for a variety of activities including social activities, hence it is important for all participants.

Street – it might be a bit misleading to call it a place because it naturally has no 'stay at' status but rather is a thoroughfare. Streets have existed long before motorcars, however, some define it as a place for cars and people, as with Cowan's (2005) definition - a continuous linear public space used as a route for motor vehicles and also for pedestrians. The policy in Scotland however states that 'streets should generally be designed with a focus on social interaction' (Scottish Government, 2010 p 38). The Scottish policy further emphasises the need for streets to be: safe and pleasant to use; easy to use in terms of moving around on them; welcoming (i.e. people should be willing to meet other people on streets); adaptable (i.e. changeable to other land uses) and then finally resource efficient. We find that the policy encourages streets to be a place for people. It will be useful to then understand how it is used as a space by people.

Though considered as a public space, the street sometimes adopts the semi-private status especially when located and positioned close to a private space. Most streets referred to here were residential streets where the speed limit was 20 miles per hour, therefore making them quieter. They most often just served the residents living on the street, but may sometimes be used as through roads. Only two roads could be classified as busy roads in Currie and Restalrig on which semi-detached dwellings were located. These were also wider roads and had speed limits at 40 miles per hour.

The site survey showed that there was a variety in road/street shapes in relation to dwelling types and there is no set standard (refer to chapter 5). Biddulph (2007) explains that it is impossible to have the same standards for all places. This might lead to placelessness or a labyrinth which is to be avoided if social life is to be enhanced within residential areas. However certain principles will work in any residential

environment, for example narrower and quieter residential streets naturally encourage interactions as these are seen as intimate areas which however provide reasonable spaces and distances for interaction, as mentioned by Porta and Rene (2005) (refer to discussions in section 3.3.2).

Use of space

Streets serve an important purpose for unplanned meetings within the residential area. They connect all spaces and blocks together and cover a large percentage of the home patch space. Interactions on both the street surface and the pavements, which is the raised surface on the side of a street, have been discussed in this section as street interactions. The reason for mentioning the differences in the street spaces is because in the discussions to follow it will be realised that both spaces i.e. the pavement and the street were usable for social interactions.

According to the SMS survey, most interactions within the residential environment happened on this pavement/sidewalk (see figure 7.1). The interview data interestingly did not reveal the street as a popular meeting place. It is not clear why however this could be an issue of the SMS providing information about how social interaction happens as compared to interviews information which provided information about reasons and perceptions of social interaction. The SMS data were reports as they happened, whilst the interview data was about recollection and hence these spaces may have been missed. In the SMS survey most of the reported street interactions were brief ranging from chats and waves to meetings and the maximum time spent on the street being 20 minutes (see figure 8.1). These are reports from both areas. See the examples below.

I spoke with a neighbour today for about 20 mins after bumping into them in the street. [RE1 4-in-a-block]

-I then spoke to my neighbour at no. 17 on the street for about 15 minutes at about 4 pm and then my other neighbour at no. 23 for about 10 minutes. Both these interactions were on the street just outside my house. X
-Sorry I forgot that on Saturday 11th may I also spoke to my neighbour on the street for a few minutes at around 5 pm [RE11 4-in-a-block]

It was not a surprise that lightly trafficked streets encouraged more social interactions among neighbours than the heavily trafficked street. This finding reflected Appleyard and Lintell's (1972) research showing that a heavy trafficked street hinders neighbouring interaction. Though Biddulph (2005) mentions that street types cannot be linked to particular dwelling types, some observations were made in this study.

Tenement dwellings studied were all located on busy streets, with the streets in Currie being a bit quieter, hence reflecting a low report of on-street interactions by tenement dwellers across both areas as in figure 7.1. Not all streets located in areas of semi-detached dwellings were very busy, though they were wider than the other residential streets, which might also affect interactions there. As mentioned previously in the literature, narrower residential streets naturally encourage interactions as they are considered intimate areas which provide reasonable distances for social interaction. This reflects Porta and Rene's (2005) work as mentioned in chapter 2, which states that social width and sky exposure (i.e.) are important for useful social interactions. We can see this from the examples below.

> *...also with the houses and the streets so narrow… that you can't.... if someone is on the other side of the street, you can't miss them... so you cannot ignore them... where if it was a big wide street, you probably would miss them.*
> [RE11 Terrace]

> *This is a funny street, because it is so wide and big, folk are not very ... you know. I could see it happening down here [points to an area with narrower streets than her street on the map]. She is in like this tiny lane and the houses are like ... there are very small houses but there are like all sort of compact but the kids can get out and play and the neighbours are all. She probably speaks to her neighbours far more... than I have lived here all my life. It is just the way the*

houses are set and things. Like we have got a pal here in this wee cul-de-sac and another pal that I don't really see now and they are the same. She is in a lane and her pal is here and they are all quite… another pal is here and they are all quite ...these are all joining up. They are quite social. Social folk...[RE13 Semi-detached]

To add to the point made about narrower streets encouraging social interactions, it was noted from the SMS survey that the semi-detached dwellers reported more 'nearby street' interactions than the other dwelling types.

-Hi... yes spoke to my friend who lives in the next street [Sydney Place] this evening! spoke for about 15 mins … thanks [RE15 Semi-detached]

-met a dog walker had quick chat in neighbouring street with him! Just for couple of minutes,as weather horrendous today [RE13 Semi-detached]

The maps show that these nearby streets of the semi-detached dwellers (those who participated in the SMS survey), were all quieter streets. This suggests the use of these compensated for the non-use of the participants own streets. Below are two diagrams showing light trafficked street next to a heavy trafficked streets in both study areas. People living on these heavy trafficked streets called busy streets did report having social interactions within the nearby light trafficked streets called quiet streets.

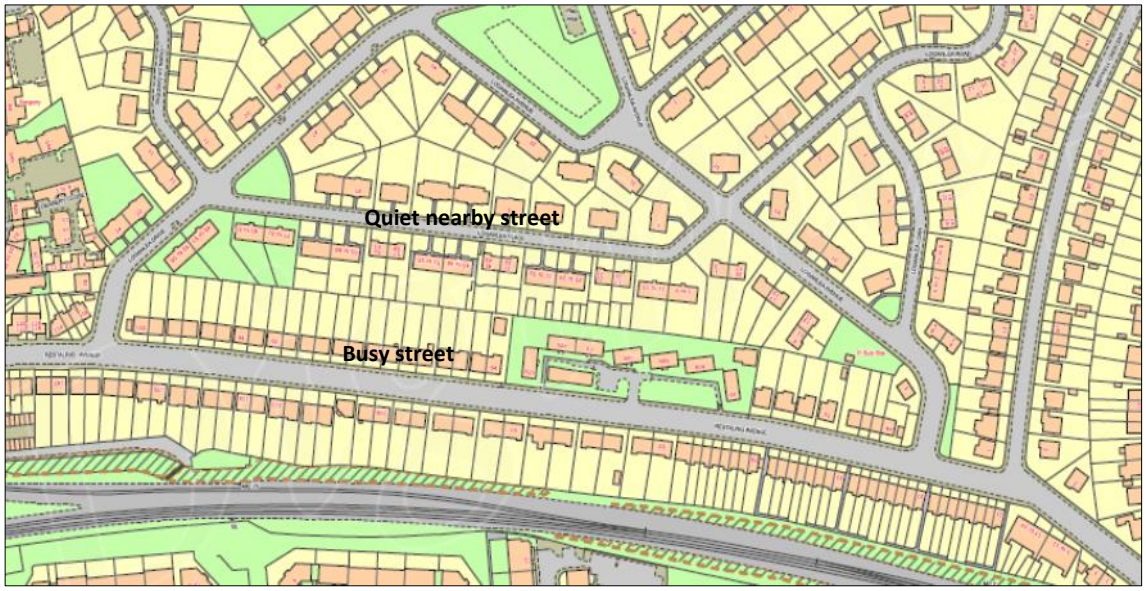


Figure 7.10 Showing quieter nearby streets to the busy streets for semi-detached dwellings in Restalrig, Source: Digimap

Figure 7.11 Showing quieter nearby streets to the busy streets for semi-detached dwellings in Currie, Source: Digimap

Below are pictures showing the light trafficked street and a heavy trafficked streets in the study areas.

Figure 7.12 Showing a light trafficked street in Restalrig. Source: Researcher

Figure 7.13 Showing a heavy trafficked street in Restalrig. Source: Researcher

It is clear from the above that light trafficked streets encourage willing interactions which perhaps is obvious. Therefore, the street can be a convivial space. Compared to parks and open green spaces, they are normally in close proximity to the dwelling as noted from the discussions had previously and on front spaces. This as such breaks the 'physical distance' barrier to using the street as a public space as well as present the opportunity for a naturally afforded *repeated occurrence of passive* contacts among people. People 'have' to use the street and this is proved from these anecdotes.

*… every time I walk along my **street**, I meet people that I know who stop and say hello or have chat.. Errrm i know most of the people on the street and they know me and they know my daughter... errrm and that makes it very friendly* [RE10 4-in-a-block]

Also I suppose walking up and down the road...I mean I ...It's very rare, I will walk up the road without talking to somebody, well it depends on the season ...honestly... on the summer, it takes forever... to go from there to school... in the winter you are less likely to.... and I would see people and nod but I wouldn't probably stop and have a chat when the weather is colder [CU7 semi-detached]

As people have to use the street on a daily basis as discovered from the SMS survey, several movement patterns can be identified. Movement on residential streets follow the following patterns below.

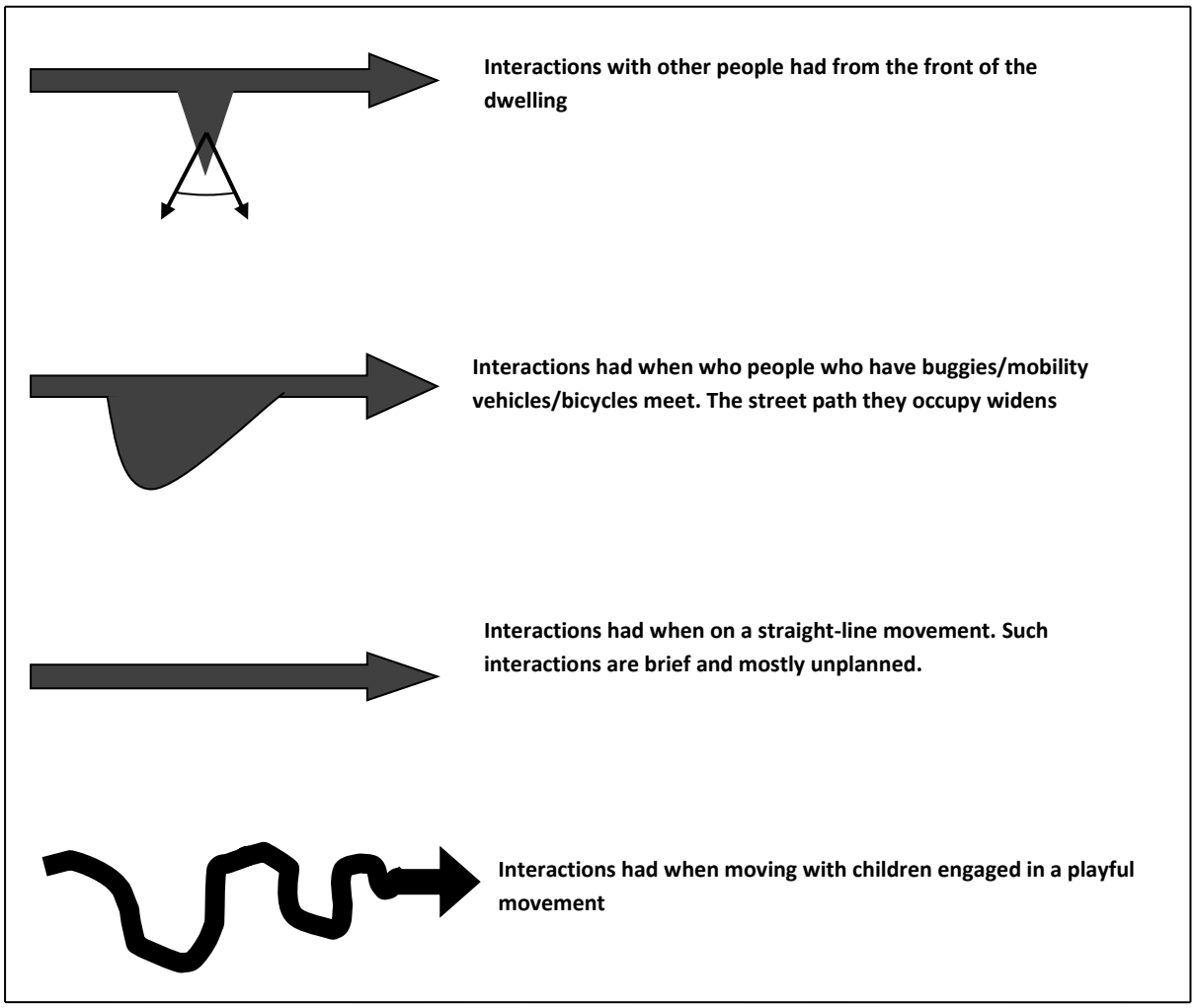


Figure 7.14 Showing street interaction patterns that happen from socialising as depicted from the SMS information. Source: Adapted from GLC (1978).

Street interactions are central to the home zone[35] or the Woonerf[36] concepts for residential streets (Ichikawa et al., 1984; Ben-Joseph 1995). See the example in figure 7.20 below. This concept simply means the street is considered as a place for people over a place used by motor vehicles.

Figure 7.15 Showing an example of a home-zone/Woonerf, Source: Biddulph (2007, p115)

When streets are traffic safe people will use them for social interactions. This element of road or street safety is affected by perception and knowledge of street system as well. According to place-making principles, spaces need to easily be understood either psychologically or physically to allow people to patronise them GLC (1978). The term understood used here is about an ability to observe or detect things that happen around the street space or within it to influence the actions they take as a result of what they see and know. The same principle can be applied to the street space and we can relate this with the example below.

[35] The concept of slowing traffic within residential areas and giving 'greater priority to non-motorised users' (DTR, date unknown)

[36] A concept where the street is viewed as a social space and not a path for vehicles. Hence people and cyclists have priority of the use of the street over motor vehicles. (Ichikawa et al., 1984; Ben-Joseph 1995)

I know people who live in the R so that is R Avenue and they seem to have much more of a culture of playing out on the street….The street is a little bit wider and they are shorter streets as well and I guess maybe that influences maybe the perception of traffic. You know you can sort of you can see from one end... and it is quite obvious... if you can see the other end of the street. Whereas here it will be kind of tricky to easily say these are the boundaries you know [RE8, 4-in-a-block]

In the street ... yes because it is a safe street. Because the children mainly play in the cul-de-sac here and round unto our street….I think that is where we are lucky in that we can let our children out. Because it is very easy to keep an eye on them.. Even when you are in. [RE1, 4-in-a-block]

…but I do worry a little bit that is quiet busy roads…the roads are very busy and they are real boundaries … so actually we probably have more contact with our neighbours in RG just as in speaking to them in the passing… because of the lane where we have our garages and we take our cars up here than we do with our neighbours across the street…they also have a lane so they would also have more contact with their neighbours at the back of their houses ... [CU2 Semi-detached]

We see from the examples above, how one participant explains how an inability to perceive traffic flows on a street prevents it from being used for playing. Another also explains that 'seeing', the street is useful to make it safe to use for playing. Another explains how she only interacts with neighbours living across her back streets, because her front street is too busy to encourage interactions. This situation is shown in figure 7.16. The back spaces which according to analysis carried out further on are not used for social interactions, are in this instance preferred because of a busy front street (refer to discussions on back spaces in section 7.3).

Figure 7.16 Showing the back spaces that are preferred for interaction because of the busy front streets. , Source: Digimap

Should the opportunity be provided, streets could be the most convivial space within the residential area. Chapter 6 (see section 6.3) presents an example of how a street has been used for social activities. The area used for the street party was a straight street, an artery to the main street and hence has the tendency to be quiet at certain times during the day. As recounted in the interviews it was blocked off and used for a street party. Perhaps more of an effort was required in this particular case, however, it demonstrates that people will use their environments if there are attractive opportunities to do so. The quality of the space is always a factor to encourage high sociable use of a space. This statement is made based on the interview data and also the information from the literature concerning streets. A model that can be adopted is the concept of home zoning or the Woonerf concept which should be peculiar to the needs of residents in the area. Therefore, ***calmer street plus aesthetic enhancements*** are likely to increase social interactions on the streets.

7.4 Places for planned interactions

The back space and the inside space of the private dwelling tend to be used for planned interactions. The latter has not been examined and discussed as information was not gathered regarding social interactions within the private dwelling. The interest as per the

aim of this study was to examine social interactions that occur around the dwelling. In this section, only the back area space will be examined.

7.4.1 The back areas

The back spaces as observed in this study were in almost all instances cut off from the public realm. They were also private spaces (see figure 7.2) and were mostly back gardens, apart from the tenement dwellings that were back greens [37]. Refer to discussions on the back green under section 7.5 – communal areas. They were also larger in area than the front spaces. For the semi-detached, terraced and 4-in-a-block dwellings, they were usually fenced creating a sharp enclosure. Figure 7.17 show the back garden in relation to the other spaces/area of the dwelling space. The enclosure therefore affected the feeling attached to this space. In some instances, they were perceived as extensions to internal private dwelling. As per the definition of a private space, the dweller had complete control over this space.

> *...you just open the door and they play outside… Inside-outside, so it's like an extra room.* [RE9 Terrace]

> *And because the back passage is joined, you kind of feel like it is an extension to your house… if you see what I mean* [RE11 Terrace]

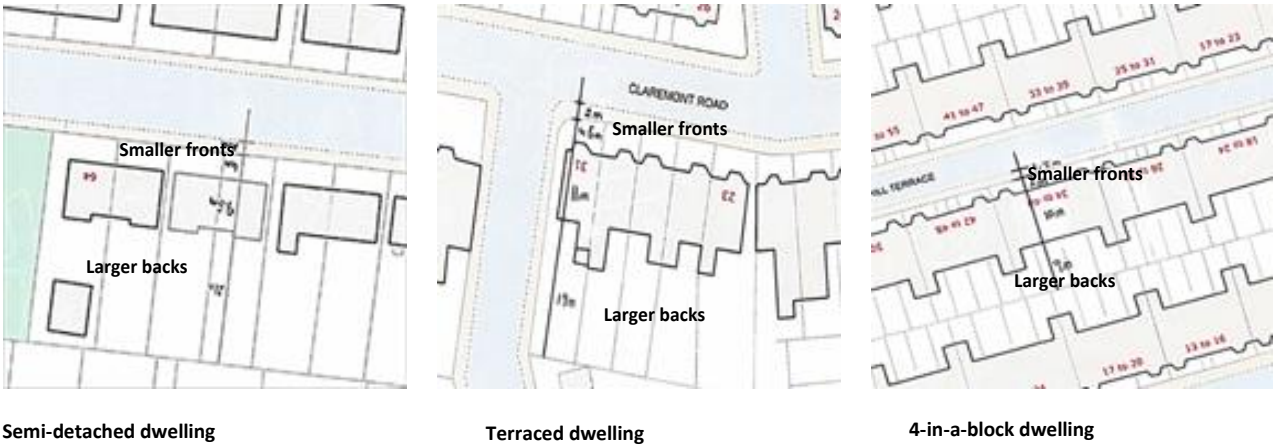


Figure 7.17 Maps showing the proportions in front and back spaces, Source: Researcher

[37] The back spaces of the tenements have been discussed under open spaces

Use of the back space

The private nature of the back space for most of the dwellings types meant that it could be used for a variety of uses. For the semi-detached, terrace and 4-in-a-block dwellings, there were no reported issues of atomization[38] reported. This is because the space could be seen and was within hearing range from some parts within the private dwelling. Also because the space did not adjoin a public realm, there was a sense of safety attached to the use of the space. We can see from the drawings provided by participants showing the back area/garden as places used mainly for child's play (see figure 6.13). This perhaps emphasises how the space is regarded as safe to use. Some expressed that they were happy to leave the children to play in the back gardens.

> *...I know it is safe... you know they can't go anywhere else…it is just a case of listening out for who is arguing, or crying or anything like that might have gone wrong [laughs]*...[RE12 Semi-detached]

Apart from child's play, other uses were gardening. The back area also had a functional use such as serving as a storage area, or for drying washing especially for some dwelling types. This was the impression felt across the two areas according to the data provided by the sample. The use of the back area also meant having a high degree of privacy. It is not an area where people will naturally want to meet other people by chance or share the space for interactions in anyway. Participants explained that interacting with neighbours in the back garden was unnatural because the interactions required more effort to undertake. The study shows that they are considered as private spaces and in most instances wish to maintained as such. The examples below strengthen this point about gardens being private.

> *errm but usually if I am going out to hang a washing I will speak to my neighbour. But there is a sort of understanding that you are not really there to socialise, if you see what I mean...that way I would just be kind of 'hiya' [points to neighbours house on drawing] I never really, converse much more than that. They have also got a conservatory ... and I would feel like I am ... if they are sitting and relaxing I just don't.* [RE6 Terrace]

[38] Atomization – a psychological detachment of space from the main dwelling from the space or a blind space as reported in a study by Yancey (1972)

…because over the wall, always feels a bit like, they are doing their thing, we are doing our thing. And it's kind of like, hello, lovely day... Whereas it is a bit more you are ... I guess this is, more of your private space and you are doing your private thing and then bumping into a conversation. [RE9 Terrace]

We got on with everyone, everyone kept their gardens really nice and we will sit and chat with people. But there are sometimes where you just want to sit and read your book …you want to have your own time [RE12, Terrace]

… so it is not like you chat to neighbours at the back, you would at the front. But not the back, it doesn't really happen that way because it is quite high fence … there is sometimes … odd shouts there... 'hello'!.. But it's not really a sociable thing at the back at all. [CU13 Terrace]

Our garden is very private, it has got like a high fence so I wouldn't... well I might choose to speak to my neighbours if I wanted to speak to them [CU2 Semi-detached]

This need for privacy is reflected in SMS survey results as presented in figure 7.1 above. As such, for those sharing the back spaces, there was not a lot of cohesive use. Whereas some were comfortable using this space with others, others were not (see section 6.4.2) hence it is not clear that creating opportunities for sharing back spaces will be helpful. We can see from some examples below.

Yes it is. I love having the garden, I love it... and I love the fact that because we are here and we are visible, they can see if we are in and so they come round and see us... it wouldn't suit everybody, not … everybody want to be that sociable... The way that the gardens are shared … it's just been very fortuitous for us [RE10, 4-in-a-block]

If it had just been like, these are all shared gardens that would have been one thing... but they had their own sort of private space but then also used everybody else and I just find that really difficult to know how to deal with it. Which really put me off using the garden [RE8, 4-in-a-block]

Using the back gardens did not come easy for some. For the 4-in-a-block dwelling type however, there is also the issue to consider about how easily accessible this back space was. Participants living in the upper floors did express difficulty associated with using

these spaces, and obviously, this was not reported by participants living in the lower flats.

> *I would go into it more, but also you know you have to go down the steps and you have to go past all the buggies and the bikes and … you know…Tripping all over the gear that is there... It is not the easiest place to go out of…the neighbours over there...have like a downstairs door and they use their garden a lot more. They are often hanging out washing and ...So I think it makes a big difference if you are in the upper flats and you have to go down those stairs and everything.* [RE11, 4-in-a-block]

> *…and then at the back we have a very small garden... errrm which actually we never ever use, partly because we have... because we can't directly access it. We need to go down to the front steps and then there is a passage way. A back passage way which we share with our next door neighbour then out into the garden and basically…and it's such a faff to get out there, that we never do.* [RE8, 4-in-a-block]

It is assumed then that living in the upper flats affected the rate at which the gardens were used for social uses including for interactions. The back spaces could be easily viewed/seen by the dwellers living in the upper flats (see figure 7.7), but then they could not be heard easily. As a result the space was used for more functional purposes than social purposes as can be seen from the example below.

> *Yes, ... I say I use my garden a lot for my drying wash ... It is really best thing to have your own garden....when I used to live in the flats you always have to wait for a washing line to be free.... I had very good neighbours and were always looking after each other. If one got a nice and dry ....we are around to pick up and take it. But here you don't need to wait and look… If it's free or not... It is always free* [CU10 4-in-a-block]

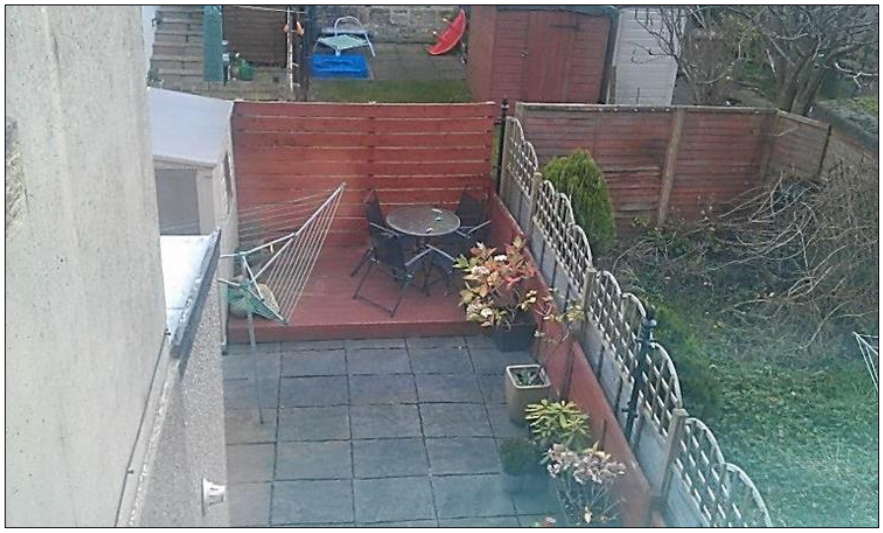


Figure 7.18 Showing a garden of a 4-in-a-block upper dwelling garden which can be seen from inside the private dwelling

The main point here is that the back spaces are private spaces which people living in the semi-detached, terrace and 4-in-a-block dwelling types prefer to maintain that way. The same with the tenement dwelling, but this will be discussed later on.

Back gardens are a resource for all dwelling types and are described as the most heavily used type of open space in urban areas (Dunnett and Qasim, 2000). Social interaction however has not been mentioned in the use. In a study by Loram et al. (2007) it was found that within the urban and suburban areas in Edinburgh, garden sizes range from 19.4 to 2290m^2. It is estimated that about 90% of households in the Britain have some sort of outside space where plants may be grown. Though only three dwelling types were mentioned in this study - detached, semi-detached and terraced dwellings, it is assumed that this relates to all housing types. According to the sample, one conclusion made is that having control over the back space of the dwelling was important for a sense of satisfaction. This was the general perception even with the 4 in a block being slightly different in both areas.

This study is interested in understanding how spaces can influence social interaction. It was found that that social interaction does not happen at the back garden of the dwellings even though the space is heavily used. This space is private and should be maintained that way, however for those willing to share this private space such as those living in the 4-in-a-block dwellings, allowances should be made, and so soft divisions

such as hedgerows, movable fences could be a consideration. Again it comes down to giving people control over what they do with their spaces. Giving people a reasonable amount of control to use the backspace such as giving people direct and easy access to it and opportunities to overlook the space 'eyes and ears on the space' will encourage neighbouring interactions.

Considering these discussions above, a model to encourage some degree of social interactions within the back area will be to provide a ***full enclosure for privacy to allow high degree of control over the space by the dweller.*** To make allowances for positive 'willing' interactions, perhaps a model which will work is one that provides ***a full enclosure for privacy but establish a high to partial degree of control over the back space by establishing soft openings.*** Soft openings can be in the form of a lower fence or a movable garden fence. These will encourage controlled interactions, bearing in mind that the back area is not used for social interactions the model seeks to give dwellers the choice to interact with neighbours and people.

7.5 Places for both planned and unplanned interactions

7.5.1 The open communal spaces

Communal open green space covers the green spaces at the back and front of the tenement dwellings. See figure 7.26. This has been discussed under open spaces rather than under fronts and backs because of its unique features. Treating this space separately will help with the understanding and also identification of factors which may improve the space for social interactions. The communal open spaces for the tenements fall under the typology of semi-private space. Unlike the other dwelling types, the semi-private spaces for the tenement dwelling cover a larger area (see section 6.4.2).

Figure 7.19 The back spaces or back greens of a tenement. Source: Researcher

Figure 7.20 The front spaces or front gardens of a tenement. Source: Researcher

Use of the communal space

The character of the semi-private space is such that it provides the tenant/dweller with a certain degree of ownership of the space. This element of ownership has been realised from previous discussions as important for social interactions. The impression according to the tenement dwellers was that they all had personal green spaces at the back of the tenement dwelling. A place they call their own. This was in the form of demarcations on the land or green area as shown in the photographs above. For the front areas, the green area was either public or belonged to the ground floor flat dwellers. According to figure 7.1, the open spaces around the tenement dwelling were not popularly used for social interactions and this was also reflected in the interviews across the two study areas. There were a number of reasons why:

- Restrictions on and expected use of the space
- The link between the open spaces and the street

- Access difficulties and
- Management and maintenance of the spaces

One reason is *the restrictions put on the space or the expectations of how the space should be used.* In some instances the use of the space is not encouraged either by tenants or landlords (See anecdotes below and figure 7.21). This then creates a disassociation of the space for social activities which could have led to social cohesion. It is clear that the restrictions placed are to maintain order on some sort of activities that the tenement dwellers were undertaking in these spaces. This gives the impression that if the opportunity is given, even the openness of the space will not be a barrier to social uses. Also, what was perceived was some willingness on the part of residents living within the tenements to use these spaces for social things. However it seems that this space is still not used much for activities.

> *... We sometimes use the front area but not…but not very... Sometimes the children would want to go outside and play in the front area, but it's not really a playing area.... I mean there is that sign up on the wall just over there...'no ball games' ...And people in the flats will come to the play area. ...It is not designed for that ... if we are going to take the kids out, we take them to the local park...if they want to play* [CU12 Tenement]

> *That is why we rather go the park, because they have a park in their school, but it [referring to the park] is really small....the playing things, is just like 3 things to play on...* [RE2 Tenement]

> *In the back green….Because, everybody is always out in the back green, maybe hanging the washing out or... taking a dog out or doing something more than I would in the front...i.e. maybe if they are at work I wouldn't see them. So being in the back green would be more likely to see more people out in the back than what you would actually in.... the front.* [RE5 Tenement]

> *errrrm the...It's nice we have got this new grassy area at the front. That for a long time was just wide open and nobody used it like because it was a bit of so we kind of fought...we argued with the housing association for a wee while and*

eventually they put this fence up which is outside. So now in the summer it gets used a lot more ...which is nice, So we've got the wee grassy area out at the front which we can take the kids and let them run about [CU11 Tenement]

Figure 7.21 Showing an overlooked open space where some social activities are prohibited in the tenements open space. Source: Researcher

This norm of non-use of this space for socialness seemed to be a normal thing of the communal open spaces around the tenements. It was realised that attempts to make these spaces convivial often resulted in clashes and conflicts (see discussions in chapter 8). It is not clear though if the conflicts were as a result of differences in priorities or because some activities were not particularly preferred by most whilst others were. In some other instances some activities mentioned as 'acceptable' within the communal spaces were gardening and playing. Despite preferring to do gardening for example, there was a sense that the open spaces were not cohesively used even with the space advantage. The open communal areas, i.e. both at the front and the back and even sides of the tenement, covered a large area and could be used for a range of activities that perhaps the spaces around the other dwellings (semi-detached, terrace and 4-in-a-block) could not accommodate. There was therefore the advantage of a wider space area available to the tenement dwelling.

In the literature it was found that Williams' (2005) study of interactions within cohousing showed that having more space around the dwellings encouraged more social interactions. It is appreciated that the dwelling type studied by Williams' (2005) is different, but the principle of having more space was a useful factor for social

interactions. Yet in this study, having more or a wider space (see figure 7.31 below) resulted in fewer social activities. The space in most instances became an object for conflict because of ownership and responsibility issues. Again, reasons included the impersonal nature of these spaces as well as again territoriality and sense of ownership. The evidence is not enough to make strong conclusions here. Also the issue of spaciousness discussed here is strongly related to territoriality and ownership.

> *Some people... Because we have got a lot of kids in this one… the kids...but we have some people moaning ... the older will moan with the noise and they are not allowed to play football* [RE5 Tenement]

> *Errrrm....mmmmh the shared garden, the neighbours don't.... you know, we have all got a part of it, but we don't really talk among ourselves to be using it together … I don't know if we feel uncomfortable being in the garden together...* [RE7 Tenement]

Perhaps, a way of encouraging these activities not to be a nuisance is through design solutions (see chapter 10).

Figure 7.22 Communal open spaces around the tenement dwellings in Restalrig and Currie, Source: Researcher

A second reason for the low use of the communal space is the *openness of the space or lack of privacy*. Even with the demarcations, the spaces felt open and hence overlooked. An example is shown in figures 7.21 above. Privacy appears to be very important for

using space around the house for social interactions (Lindsay, 2010). The lack of enclosure of these communal open spaces meant they mimicked the character of open parks which are of course completely public. Whereas with the spaces around the dwelling, there is an expectation that it should be private at least. For the tenements dwellers a major source of conflicts with neighbours was lack of private back gardens. Kellet (1982) emphasised that a major dissatisfaction with public housing which is most often made up of flats was the lack of private garden spaces.

From some of the narratives, the spaces (especially those at the back) were used for functional activities such as drying clothes, keeping a kennel, but rarely for social activities.

> *Errm I use them for clothes drying more than anything else. Just… errrm... Because there is not out much there for the children. We don't sit communally out there ... with neighbours. And just because the kids are too young to put out themselves...* [RE3 Tenement]

> *But again, it is not somewhere that is generally used by people in the flats... it's not like people will always be out there ...talking or meet each other or sitting outside having a chat ...it's not used like a garden, but again it's too open... You know everyone can walk past...it's not private a space.... and it's only recently that they put a fence up...on the main road. I mean for years the fence wasn't there and people just brought their dogs into it.... do the toilet... whatever. People used it as a crossing area... to commute to the bus stops* [CU12 Tenement]

A third reason for the low usage of the open spaces around the tenement dwellings was because of a *direct linkage of the open space to 'unfriendly' streets.* Due to the direct link between the semi-private spaces, for example the front space, into the public space which was the street, the tenement dwellings front spaces were not used. They were not considered as places to stand and chat. Direct link between the different types of spaces here means lack of a buffer or adjoining space between two space types. This was the general impression.

Not really no... I would be going... basically if I am going out the front, I am going away... so … I wouldn't really stand and … no…I don't hang about streets [laughs] [RE5 Tenement]

Errrrm, I have been here for over 12 years in this flat and it's not ideal, because when you come out, it goes straight unto the main road… it's not safe …. [RE7 Tenement]

The tenement dwelling blocks were most often situated on main streets. This was the observation made in Restalrig, but not so much in Currie. This therefore explained why the only front interaction was reported from Currie (see figure 7.1). This issue observed above mirrors the study carried out by Appleyard and Lintel (1972) on streets and their relationships to social life. Refer to discussions in section 3.3.2. Also Gehl (1986) mentions that lack of a soft edge which in other words is a buffer that separates two different space types like a private from a public, significantly affect how the space is used for sociability.

A fourth factor that prevented the use of the communal space for social interaction was *access difficulties*. The fact that tenement dwellers had to 'travel' (down a flight of stairs) to use it often served as a deterrent. Easy access and use of the back space was also a prominent problem within the tenements. Participants living in the upper flats of the 4-in-a-block dwelling types also mentioned such difficulties; however it appears that there were more people who had the problem of access within the tenement than in the 4-in-a-bloc dwelling. The logic that is more people lived in upper flats within the tenement block than in the 4-in-a-block dwelling.

It is likely that the issue of access might not be a problem to other people as it is with the sample, i.e. parents with young children who have to carry buggies and other things downstairs for play. This largely depends on the age of the children as well, which results in other problems like supervision. If the children are young, of course supervision is required. Also if the communal area is not enclosed with easy access to the street it cannot be used for unsupervised play for most children.

It has been mentioned above that the communal spaces could be quite open, which does not afford any privacy, however, in some instances the space could also not be accessed by sight or even by 'hearing'. This made it impossible to let children use the space on their own as parents would allow in the other three dwelling types. This naturally prevented the space from being used for social activities that might lead to interactions.

> *Errm the first time I met the lady who lives here … she actually watched them in the garden while I put lunch on, which was a first ... I said you know, we need to go upstairs because I've got a lot to do and she said just let them play because I am going to be outside. So we hadn't had that before so that was really nice*. [RE3 Tenement]

A fifth reason that would have perhaps been very prominent in preventing the open spaces from being used is *management and the maintenance of the spaces*. However because these spaces at the back and also at the front (at times) were private spaces, their maintenance is the responsibility of the owners. The issue of poor management of the spaces was not reported during the interviews. Also during the site survey and area observation, it can be said that these spaces seemed reasonably managed (see figure 7.23) as there was no reported issue of untidiness and vandalism though some were observed (see figure 7.24).

Figure 7.23 Showing a well-managed back space of a tenement dwelling in Restalrig

Figure 7.24 Showing a notice of complaint for making the back green untidy

From the analysis of the open spaces carried out above, it was clear that there seemed to be the willingness to use the spaces around the tenement dwelling for social and communal activities. Most of the open spaces around the tenement dwellings were privately owned, therefore it was expected that, as with the other dwelling types, the element of control over the space should to some extent exist. However these five factors mentioned as: restrictions on and expected use of the space; privacy; the linking between the open spaces to the street; access difficulties and the management and maintenance of the spaces made the space around the dwelling unusable sometimes. Factors like access might be difficult to regulate through planning, but factors like providing privacy and some level of control, enforcing management and maintenance of the spaces and providing a buffer between the spaces around the tenement and the public areas like the street, might be feasible. Privacy is perhaps the most important element that will enhance space use because the openness of the back and front spaces seems to pose a problem.

A model that could be adopted to take the problems of, particularly providing a linkage between space types and privacy into consideration are, ***to enhance the level of control over the communal spaces through providing some enclosure.*** The front area for example could adopt a design strategy which breaks the sky openness/width but not the ground space. This can be done perhaps through shading using trees or high hedges to as well provide an aesthetically pleasing environment which may likely to increase the convivial use of the spaces around the tenement and also encourage more social interactions.

7.6 Concluding discussions

The chapter examined different spaces used for social interaction within the residential environment, focussing on the home-patch. Some spaces encouraged unplanned interactions and these were the front spaces of the semi-detached, terrace and 4-in-a-block dwellings, the stairways of the tenements and the streets. The areas identified for planned interactions were mainly the back areas of the semi-detached, terrace and 4-in-a-block dwellings. Some spaces encouraged both types of interactions. These were the common open areas and this was within the tenements dwellings only. After examining all these spaces, some models in the form of design recommendations were suggested to encourage social interactions within these spaces.

The front spaces were natural areas for interacting because they were connected to activity zones or well-used spaces, i.e. the street. In another vein, interactions happened because people had autonomy through control and private ownership. Having an element of control over the space encouraged willing interactions even when these spaces were not found to be convivial. The quality of space has always been noted as a factor that encourages the social use of spaces. However this sample demonstrates that autonomy is important for encouraging the social use of spaces. Therefore a model in the form of a design recommendation was suggested and it is a: ***partial enclosure which provides some level of privacy but affords connectivity to a public realm, plus a high level of control over the space.***

The stair is a space with a dual status: private space for use by the tenement dwellers and a shared space which makes it semi-private space. According to the sample, the discovery made was that this space was not used for social interactions because of the openness (space used by everybody), its unattractive nature (bare and sometimes broken features) and the unsafe nature (no intercom and sometimes no doors to the stair) of the stair space. It was not considered a sociable space, however should the opportunity exist for it to be, it could have a sociable use. Perhaps a design model that will encourage social interactions and make the space convivial is to give the dwellers: ***increased control through increasing space, improving security and creating an aesthetically pleasing outlook.***

The street space is public and was the most used space according to the sample. Any public space that is safe and pleasing to the eye will attract social uses (Wooley, 2003) besides its functional use as a route. A suggested design model to promote its use in the social sense is adapting the home zone concept, i.e. ***calmer street plus aesthetic enhancements.***

Back spaces (for the semi-detached, terraced and the 4-in-a-block dwellings) are fully enclosed private areas. Social interactions are not expected to happen within them unless an opportunity arises. For those who shared their back spaces, this worked well because it was a convenient area to interact with neighbours as well as the space could be widened and used for social activities that would otherwise not be had within a small private garden (see chapter 6 section 6.4.2). Perhaps this situation is acceptable if the dwellers of these houses wish it to be so. Where this 'sharing of space' is not acceptable, opportunities should be provided through design to give dwellers exclusive control over a back garden space where they have the choice to make it a sociable space or not. This design model is suggested: ***full enclosure for privacy to allow high degree of control over the space by the dweller.*** This was suggested bearing in mind that the back space is private and hence people might not necessarily want to use it for social interactions. In the case where people want to use the back area for controlled social interactions, a suggested design model is to provide*:* ***full enclosures for privacy but establish a high to partial degree of control over the back space by establishing soft openings.***

The communal open spaces which are spaces located around the tenement dwelling are semi-private in nature because of their shared use. The literature explains that such spaces have the tendency to encourage sociability which in turn encourages a sense of community (Kaplan and Kaplan, 1989, Kearney, 2006, Kim and Kaplan, 2004). However this is largely dependent on a number of factors. In this study the quality of the spaces and the level of control the tenement dwellers had on the space determined to a great extent how these spaces were used. Most uses were functional because the quality was absent and so was the control over the use of the space. A suggested design model to encourage sociable and or cohesive use is: ***to enhance the level of control over the communal spaces through providing some enclosure.***

The design models suggested for making the meeting places favourable to social interaction emphasise the following: providing people with control over spaces; making the spaces spacious and creating an aesthetically pleasing environment. Kupper (1953) mentions that these i.e. the suggested design model seem to be the main factors that make spaces convivial for willing social interactions. Such interactions are reported to build up and create cohesion among neighbours (Forrest and Kearns, 2001). The next chapter looks at how this cohesion is created from using the spaces around the residential dwelling. This is in partial fulfilment of objective 4 and research question 4 sub question c which are: to evaluate how positive social interaction arises from space use within the different residential built form types and sub question - c) Is the interactions that occur within these spaces positive? (Chapter 8).

Chapter 8 Interacting for wellness

8.1 Introduction

Social interactions have two aspects: the cognitive and the structural. This chapter focuses on the cognitive benefits from interacting with other people and this strongly relates to mental wellbeing. The structural aspect of social relationships focuses on the social system that focuses on frequencies and concentrations of interactions, i.e. the number of people one: meets, talks to or relates with etc. It has been found that this does not necessarily mean that such encounters produce positive emotions. The quality of the interactions, which is the cognitive element, rather produces trust, reciprocity, cooperation, harmony, feelings of happiness known to be good for positive emotions hence mental well-being (See Chapter 2, section 2.3). This chapter therefore analyses the cognitive benefits that arise from these interactions around the home. The chapter *assesses how positive social interaction arises within the different residential built form types.* This fulfils research objective 4, research question 4, particularly sub-question c.

Social interaction builds cohesion and neighbouring because by definition, *'neighbouring involves social interactions by which residents establish social connections that are either personal or at the neighbouring level'* (Lochner at al., 1999 p265). Forrest and Kearns (2001) also define social cohesion as *'getting by and getting on at the more mundane level of everyday life'* p 2127. Therefore 'neighbouring' has been used where required in this chapter to refer to interactions among neighbours in the home-patch within study areas.

The chapter starts with a discussion of positive interactions and looks at general interactions (for and from weak ties), deeper interactions (for and from strong ties) and participation in community activities by the study participants The chapter concludes by putting the evidence from the preceding sections together and discussing mental wellbeing and neighbouring today.

8.2 Examining positive interactions

What is the story with positive social interactions and how is this happening? Previous studies examining social interaction within the built environment does not distinguish between positive and negative social interaction (see section 3.4). Neither do they identify whether the social interactions lead to positive mental well-being. Rather the focus has been on how built form layouts encourage social interactions and the places where social interaction happens or features that might encourage it. Refer to section 3.3.2. The inability to link social interaction to health and wellbeing is due to the methods used.

The methods used in previous studies do not explore the health benefits of social interactions because it was realised that no indicator testing the health benefits of social interaction was included in the measurements tools (see Appendix C). Interactions were measured using surveys or narratives and in one case, an activity diary (Caplow and Forman, 1950; Du Toit, et al, 2007; Appleyard and Lintell, 1972; Lochner et al, 1999; Frumkin et al, 2004; William, 2005). It might be argued that social interaction itself is seen to be beneficial to mental wellbeing therefore there is no point in trying to measure the obvious, but we see in chapter 2 that it is not always the case. Some social interactions do not lead to mental wellness.

This research therefore attempted to examine social interaction as a health enhancing behaviour and used methods, i.e. interviews and behaviour/activity diaries that allow this. The data collected in this study revealed the three elements that explain how social interaction within the different dwelling types can be health enhancing. These are listed and discussed in turn below.

- Weak ties for thin trust, i.e. the general interactions between neighbours and people
- Strong ties for thick trust, i.e., knowing the neighbours well to extent of doing things together and
- Involvement and sense of belonging - tested through community activities

8.3 Weak ties for thin trust

Chapter 2 section 2.3 explains the weak ties and thin trust concepts. It is basically the superficial interactions that occur between neighbours in the residential area which means 'knowing your neighbours fairly well'.

According to the SMS and interview data, people across the two study areas generally knew who their neighbours were. Some more than the others, but on the whole, people had a fairly good idea of who was living close to them. Following this it was realised that people are willing to work on thin trust principles rather than on thick trust principles as depicted by Frumkin (2004). So generally, people are likely to be more polite and get along rather than be trusting or open up to neighbours.

> *The neighbours are all very very nice, they are all, they, keep themselves to themselves really errm all quiet. We kind of look out for each other but not that there is much to look out for cos they are all … it's very quiet anyway* [CU11 Tenement]

> *So most of the people in these flats know to say 'hello' and ... you know people are quite friendly they will … may take in parcel from the post if you are not in, but people don't really go into each other's houses to socialize.* [CU12 Tenement]

> *I don't ... I know them to say hello to... and the 2 across ... the 2 houses across … they are older ... but yeah, they are nice to speak to ... yeah,* [RE15 Semi-detached]

The SMS survey data revealed that most interactions are unplanned. Participants were asked in the SMS how long their interactions during the day lasted for[39]. People did interact and this was obviously expected, but the majority were short passive interactions that on average could be recorded at about 3 minutes per interaction. Figure 8.1 below shows the overall interaction time recorded by each participant.

[39] How long were you together?

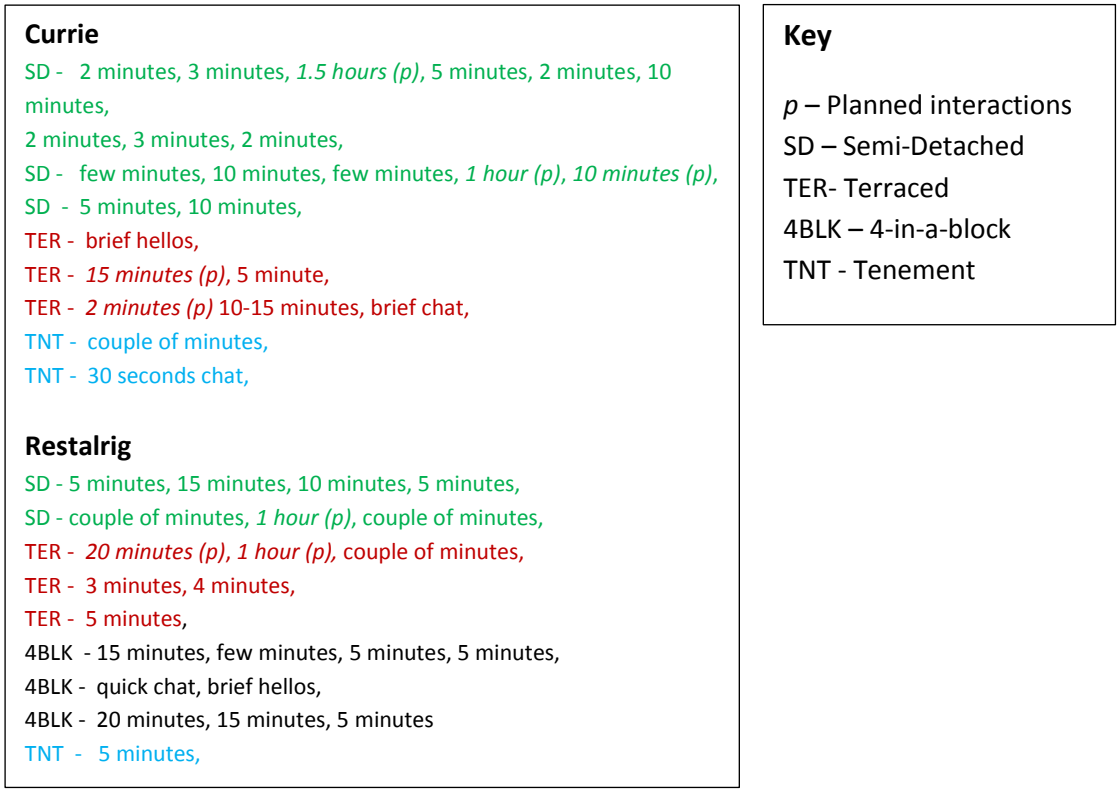


Figure 8.1 Duration of planned and unplanned social interactions (SMS data).

The above figure confirms that weak ties are often more plentiful as shown in other studies conducted within similar environments/contexts (Yancey, 1972; Lipman and Russel-Lacy, 1974; Gehl, 1986 and Williams, 2005). The Scottish Household Survey (year unstated) showed that weak ties, measured using acquaintanceship, courtesy and kindness indicators are generally low in Scotland. THAW (transport, housing and wellbeing) study 1997-2000, Glasgow and Clyde Valley Structure Plan Area, also reports lowe levels of interactions among neighbours generally in Scotland. This is applicable to England as well according to Forrest and Kearns (2001).

Henning and Leiberg's (1996) study of social interactions within neighbourhoods in Sweden also revealed that the number of weak ties ranging from nodding, acknowledging another's presence and also taking a parcel for another, was higher than that of strong ties. This seems to be a thing of culture (individualism) for the westernised world including mainland Europe (refer to discussions in section 2.2). The expectation is not for people to develop thick bonds and strong ties with the neighbours. Refer to section 6.4.2, discussions under expected norms. However according to Henning and Leiberg (1996), developing a relationship with your neighbour, was

considered important for some reasons. One was to share responsibilities where joint ownership of physical structures was concerned and the other was for social backup with regards to getting help in an emergency.

> *So everything is linked up … you know, you cannot pebble that bit without talking to 21. So if you don't get on with your neighbour, you are in trouble ...* [RE11 Terraced]

> *Although I think would even feel that I am imposing on them ... I think in an emergency, we will do it ... we would probably feel that we are imposing a wee bit. [laughs]. This is the thing, they have offered help all the time and again we wouldn't want to trouble them [Laughs].* [CU14 4-in-a-block]

> *Or if you know, I coming from the stairs and run into another person at the door, I might say 'hi', 'hello' 'how are you'…But no its never 'come in for a coffee', nothing like that. With neighbours I feel … you don't want to get too friendly because if a problem happens then you have to keep passing them,* [RE7 Tenement]

The issue raised above by RE7, is emphasized through the example presented below that maintaining a civil relationship with neighbours is important.

> *That is how we fell out with these people here... they put in it convert the front garden into a drive way. So they put a neighbour notification through our doors on a Sunday night ... and my partner went to their door the next day just to speak to them and ... and everything had gone on fine with them up until then*. [RE1 4-in-a-block]

There was the general sense of weak ties and thin trust bordering on unfriendliness or being overly cautious, which possibly may not be beneficial for mental well-being (see figure 2.4). The point made here is that weak ties dominated within the neighbourhood and it could be that people simply had or made stronger ties elsewhere. As Giddens (1984) states, there is the need for man to belong to a society of people. Chapter 2 explains that the social network of 'an average person' is wide, so there is always another to rely on if others fail. This need to belong can be met in various ways.

Increased social networks, educational status, financial status, employment status mean there are opportunities for people to tap into and benefit from social capital outside the home-patch or neighbourhood. Apart from having social connections elsewhere which might be contributing to these plentiful weaker ties and thin trust and superficial interactions within the neighbourhood, two factors were identified from the data. These were: time and life stage.

Time as a factor

Forrest and Kearns 2001 say that the '*strongest predictor of individual local friendships is length of residence: the longer you live in an area, the more local friends you are likely to have acquired' p 2131*. People only develop thick trust and strong ties over a period of time.

> *Errm, but yeah, here I mean people are nice... It sort of takes a while to ... for them to sort of warm up to you I think, unless you have been born and bred in Currie. [CU15 Terraced]*

> *Its hard work I think to try to kind of create that. The idea of moving is really scary to me, because I think 'oh I will have to start again'... but at the same time we are not close friends with any of them [RE6 Terraced]*

The length of time referred to by Forrest and Kearns (2001) is not defined in years, which it makes it difficult to judge if the participants had enough time to create strong bonds with neighbours. According to the socio economic information (see appendix H) gathered from the sample, the average length of stay in years for participants in Restalrig was 7 years and 5 years for participants in Currie. This might be sufficient for some to create bonds and for others not. A conclusion cannot be made here, but the general view from participants was that this length of time might not be sufficient to create bonds among neighbours.

Life dynamics

The study areas had a mixed group of people living within them and the effects of this mix reflected on their life style and daily activities. The differences in the life style meant non-homogenous groups were likely to have frequent interactions through unplanned meetings which may happen on the street for example. Fleming et al (1985) argue that the frequency of passive contacts and the availability of an appropriate space and the proximity of people to each other fuel social interactions which can then build on to something else. Therefore the absence of frequent contacts affects the ability to interact with neighbours. This can be seen from the example below.

> *I didn't see her for ages and that day ... that week I saw her 3 times. Because sometimes in our life, we always come in a different time ... and sometimes we didn't see my neighbour for five, six months [laughs]. Because you know it depends, what time you are going out and she is working night shift ...* [CU10 4-in-a-block]

From the example above one can say that the participant knows her neighbour well enough, but had less time to interact with her due to their different life patterns. To digress away from the issue of life stage/dynamics a bit, knowing one's neighbour's life pattern well enough could be an indication that a strong tie based on thick trusts has been established. Another point raised here is that using the frequency of contacts to measure the intensity of interaction and neighbouring is not always appropriate though it does depend on the purpose of such measurement. The reason why such indicators and methods are used to measure social interaction should carefully considered in future studies.

The issue however remains that life stage and dynamics are determinant factors in the plentiful nature of superficial social interactions. But were people happy with these superficial interactions? It could be, because as seen from the analysis above and also from the literature, it is preferred. Of course there are underlying reasons apart from time and life stages. It seems like a 'safer' option to keep weak ties and interact

superficially. In that way the relationships people have are more likely to be preserved than if ties are made strong.

8.3.1. The evidence so far for weak ties within the residential environment

It is established that weak ties/thin trusts are plentiful in both study areas and also within all dwelling types. However, the tenements dwellers had less weak ties and thin trust with their neighbours than participants living within the other three dwelling types (see discussions in chapter 6 as well). We can see some examples below.

-No, not today :)
-Nope not today :)
-I met my neighbor in the stair and said hello :)
-I bumped into my neighbor in the stair today and we had a quick 30 second chat on the passing about his baby. It wasn't planned. [CU10 Tenement]

-We went for ice cream in Musselburgh with granny and Grampa
-Yes, we went to a party at clownaround soft play from 11-1
-Went to nursery for group photo and Ava's tap class then took kids to my mum's.
-Visit from council re recycling bins. Discussed what I recycle and arranged to get new bins
-Dropped kids at nursery at 9 then went into town. Will not be home until tomorrow.
-I was in leith briefly in the heavy rain and picking up some shopping at scotmid in restalrig. Didn't take kids out due to rain but hairdresser and friend visited [RE3 Tenement]

The SMS survey occurred over a two week period and it is possible that during the two weeks only superficial interactions occurred among and within the tenement dwelling. However the evidence from the other data sources showed that it is the case generally with tenement dwellings. We see a lot of this in chapter 6 and the possible reasons for this have been provided in chapter 7.

8.4 Strong ties and thick trust for happiness or unhappiness

Despite the high level of superficial interactions between neighbours that were identified and discussed in section 8.3 some deeper interactions based on thick trust were also identified. To test for strong ties and thick trust among neighbours, the following factors were used: how well people know their neighbours and indications that they are willing to do things together. These were influenced by *trust and expectation and* a breach of these resulted in negative interactions. Following these two points will be a discussion on negative interactions and conflicts as well.

8.4.1 Knowing your neighbours well

To 'know' someone simply means to 'have developed a relationship with (someone) through meeting and spending time with them. It is also being familiar or friendly with someone. Since 'knowing' means a 'development of a relationship' this has been used to test strong ties through thicker trusts among neighbours. The previous section mentioned that on the whole it seemed that most participants knew their neighbours fairly well, but also some developed strong relationships with their neighbours and it was the element of trust and expectation which fuelled such strong ties between people.

> *Everybody is like knocking on doors and the kids are playing together errrrm… yeah... I think it's ... it's ... what's the way to say it ... trusting… nobody will put their head down and walk past...It is very much you know a 'hello type community' and that is the kind of area that I grew up in, so it's nice to come back to* [CU5 semi-detached Currie]

> *I cannot leave my house in the neighbourhood without bumping into somebody and that is one of the things that I really really love about it, it's like I just feel really integrated into the neighbourhood … errr, … I have now built up lots of relationships and that feels like a really sort of important factor in terms of feeling rooted in the neighbourhood* [RE8 4-in-a-block]

According to the SMS data, thick trust through knowing your neighbours was not particularly evident. It can be said that people recorded positive interactions only because nobody reported a negative encounter. However with the interactions reported, indications that they were deep/thick was not easy to detect. There are some examples (see examples below) that might indicate some high trust levels.

-hi, met with N from across the road to pick up her children before school run.
-we were in the house most of the day... Waved to my neighbour & her baby through the window
[RE8 4-in-a-block]

- We had planned to meet up with 2 neighbours and another child and go to our new allotment but it's been so wet we stayed home and met no one all morning
- met 3 neighbours in back garden for picnic and 3 more neighbours in C T.
- My mum came to lunch and xxx [child] played with our neighbour's son at their house while I took mum shopping. I had dinner with the same neighbours so chatted with them [RE10 4-in-a-block]

One thing that was noted was, for the deep interactions and thick trusts reported, they happened more with participants living within all dwelling types except the tenement dwelling. Whilst the interview data showed this evidence for Currie, the SMS data showed this evidence for Restalrig. It is not clear why there is this difference. One explanation could be that participants in Restalrig seem to use their environment more for social interactions than those in Currie (See figure 6.1 and 6.2). As a result they were able to provide a more accurate account of their social interactions via the SMS data source than those in Currie. The interviews were narrative accounts given by participants of their social interaction experience and as such they could just be an interpretation of the truth. The SMS data on the other hand provided information regarding what has happened.

8.4.2 Doing things together

The *doing of things together*, as an indication that neighbours trust each other and are therefore willing to get on with each other seemed feasible. During the interviews people were asked if they did things together with their neighbours. One interesting point is as at the time of the interviews there had been the celebration of the Queens Jubilee[40] and this was a major event that encouraged people to come together and celebrate. Other occurrences such as heavy snow also created opportunities for people to do things together which then turned into social events (see story from RE1 below).

> *N organised a massive big street party for the Queens Jubilee so we had the street all blocked ... off... and I got to know a lot of many neighbours that way actually ... a lot of people that I didn't know before , that was lovely ... errrrm yeah ... just we don't really organise big ... get-together, but local things ...* [CU5 semi-detached]

> *There was a street party this year... for the jubilee ... so everyone got invited to that, so that was good fun ... Just a funny thing... a couple of years ago when we had the bad snow ... It was about half past 10 on a Sunday night and we were all having a snow ball fight ... [laughs].Even people that you wouldn't expect to come out ... And then we have bbqs ... obviously not this year... but you generally find that... when you have a bbq, half the street is in there [laughs] ... yes ... I have to say that there is a nice sense of community that way ... it's lovely ... That is why I have been there so long ... [laughs]* [RE1, 4-in-a-block]

From the quotations, one can argue that people seem happy to do things together, but this is not enough to conclude that it is always the case. It was noticeable that doing social things together was common in the semi-detached, terrace and 4-in-a-block dwellings, but not within the tenements. This point has been illustrated in the graphs below. Participants were asked if they met to do things together[41] and the response was visualised using graphs.

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40 https://www.royal.gov.uk/HMTheQueen/TheQueenandspecialanniversaries/TheQueensDiamondJubilee2012/TheQueensDiamondJubilee2012.aspx

41 SMS question - did you plan to meet with them?

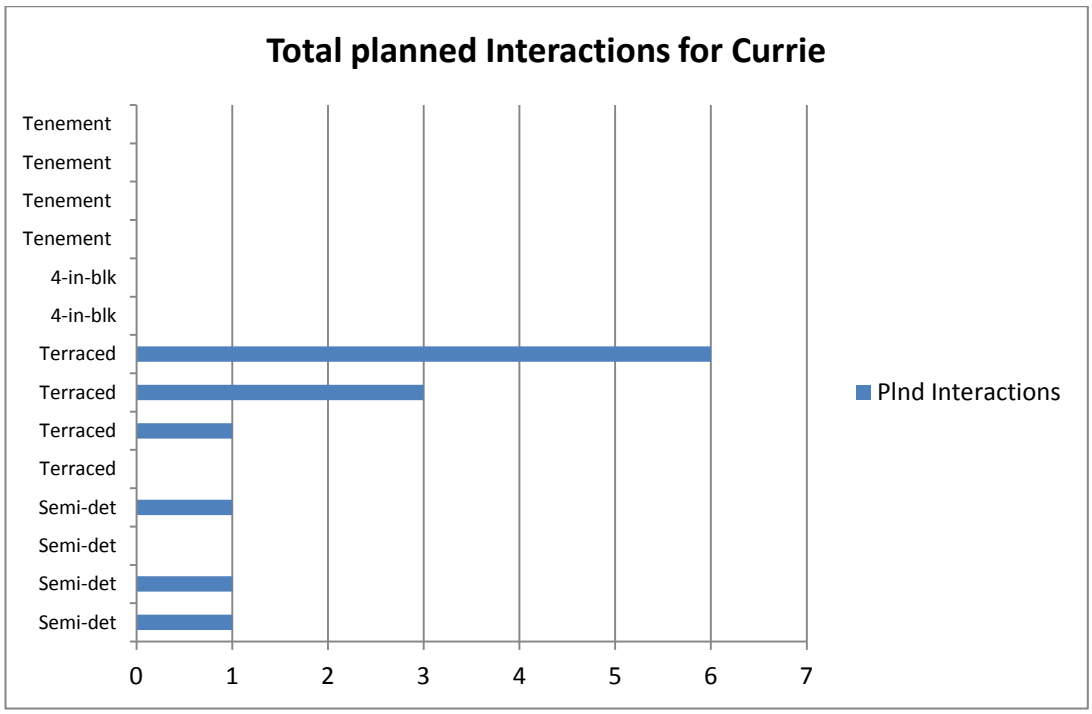

Figure 8.2 Planned interactions in Currie**,** source SMS data (the figures on the x axis show interactions over the duration of the survey)

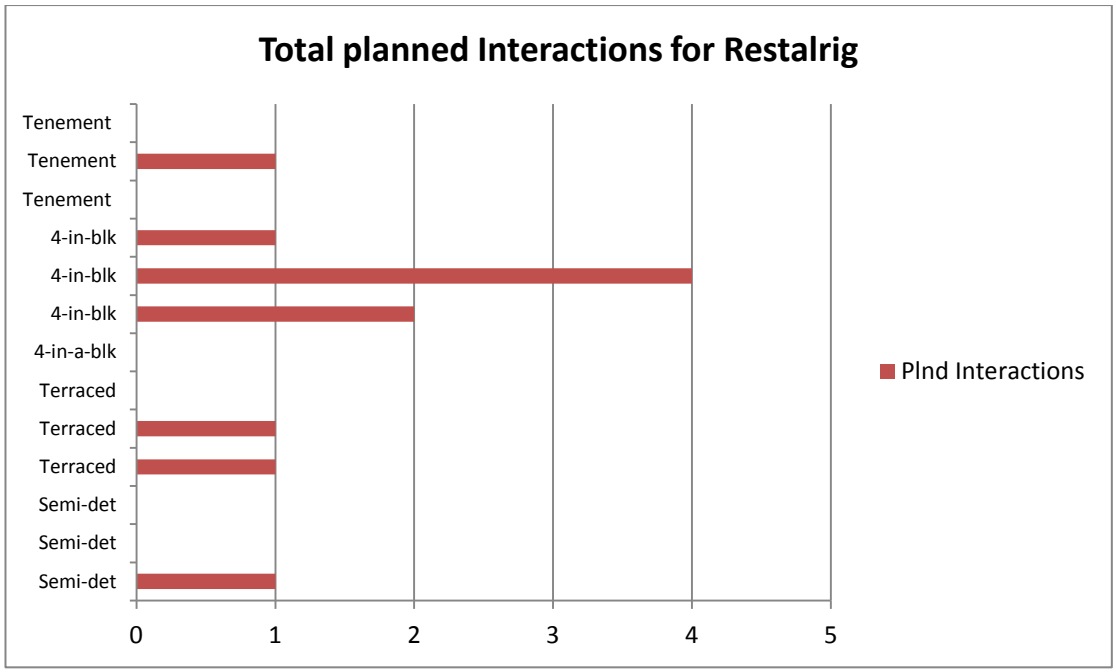

Figure 8.3 Planned interactions in Restalrig, source SMS data (the figures on the x axis show interactions over the duration of the survey)

Figures 8.2 and 8.3 show that more planned social interaction happened in Currie than in Restalrig.

Figures 8.2 and 8.3 show the total of planned interactions with neighbours that participants mentioned during the SMS survey.

In Currie, reports of doing things together were highest for terraced and semi-detached dwellings. The participants living within the tenements and 4-in-a-block dwellings did not report any planned activities/interactions over the two week period of the survey. In Restalrig, there was a spread, but the 4-in-a-block residents had the highest number of planned interactions. The participants that mentioned the high number of planned interactions were actually the same ones who expressed high levels of unplanned interactions with their neighbours (see RE10 in chapter 6). From figure 8.3 there is some reported planned interaction by a tenement dweller in Restalrig, however the tenement dweller who reported a planned interaction indicated that this was not with her neighbours, but rather with a friend. Going by this it can be said there was again no planned interaction among neighbours within the tenements in Restalrig as well as Currie. This was however reported because it was a planned 'social' interaction, although not with a neighbour. The tenements residents said that they come together or do things together as a way of solving problems or dealing with issues that needed attention. Therefore crises and negative situations built social capital, but there is no indication that this was health enhancing. This outcome (that crises and negative issues arise in the tenements) has been related to the issues raised in chapter 7. The nature of the spaces for the different dwellings affects its use for even daily life events, and also social events. The examples below show how tenements dwellers did not do 'social' things together. In some instances as shown below, when the attempt was made, it was not successful even though some of the tenements dwellings that were studied had other households with children and others without.

> *I mean our stair and errrm we all get on really well and have a really nice stair...whereas before we … and it's worked really well errr ... errrr .. .so yeah I mean, yes we've had bad times, yes we were worried, we all came together we dealt with it, it's not just your stair, this stair had a similar problem as well... and reacted in the same way* [CU9 Tenement]

> *We did start a rota [the rota was for cleaning shared spaces in the block]. The 2 men next door to me decided to set up a rota, but then it fell aside [laughs]. People kept on forgetting and so we were doing it so ...* [RE7 Tenement]

The examples above could also mean that tenement dwellers feel the need to do more to make their home environments friendly. To prove this, tenement dwellers were the only participants who showed through their micro space drawings spaces that can be used for social activities (with neighbours). The figure below shows spaces around the tenement which can be used for play and social activities (marked with green stickers). This includes the back gardens and the front open spaces.

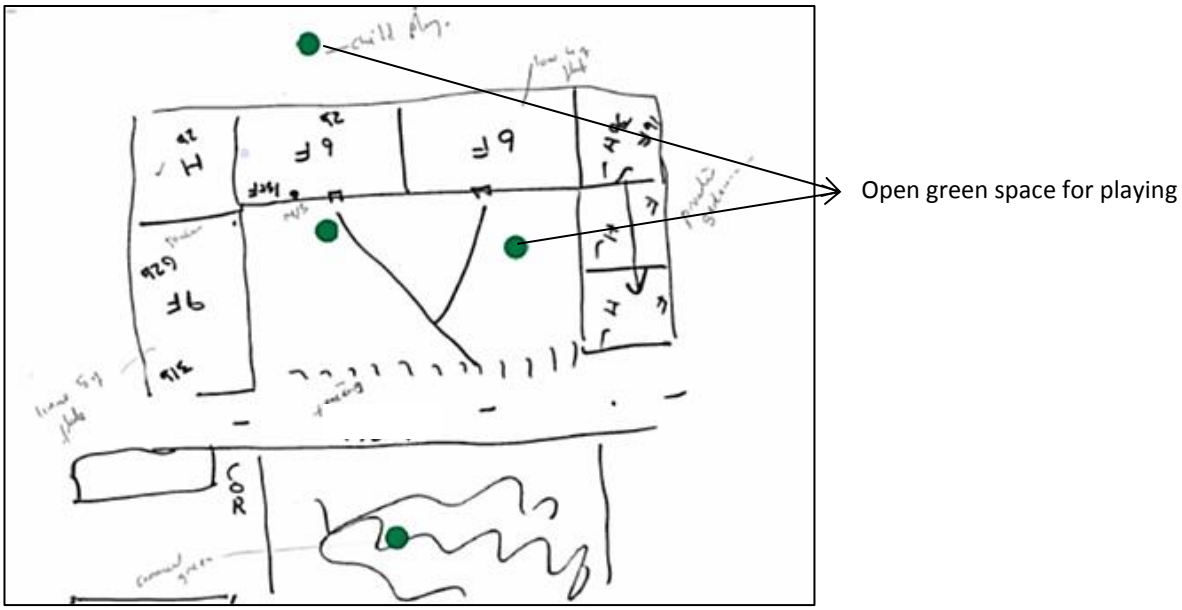

Figure 8.4 Micro space use drawing by CU9 Tenement

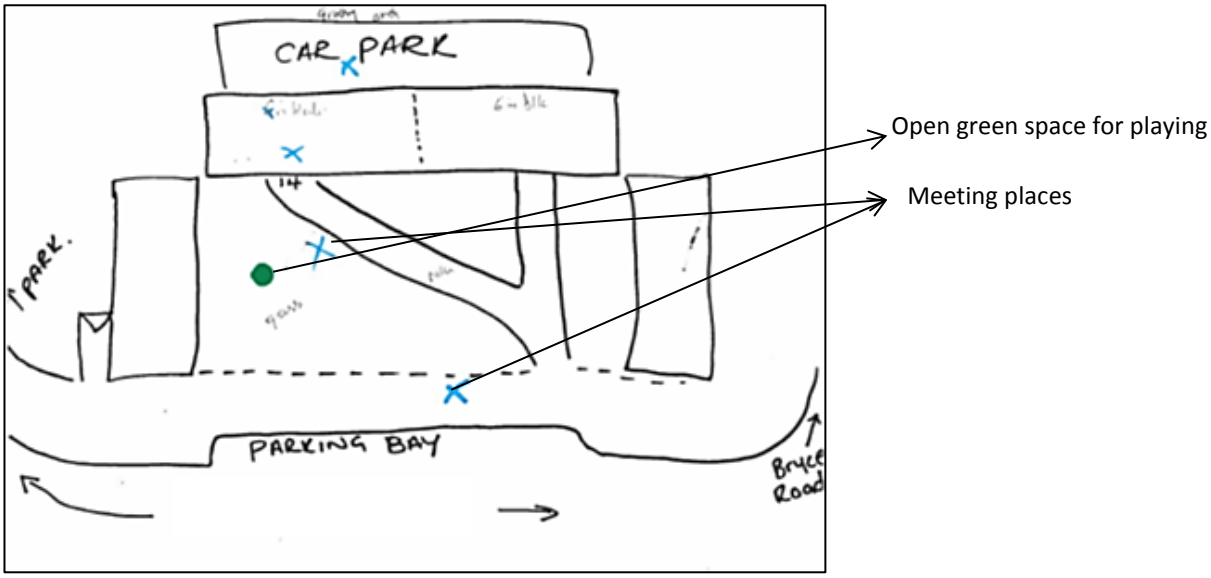

Figure 8.5 Micro space use drawing by CU11 Tenement

What was unexpected was that, the deepest interactions and the thickest trust expressed so far through 'doing things together' were from tenement dwellers.

> *Yeah this one here at the bottom … my best friend…stays at the bottom and my other best friend stays at the top so we do a lot there... we go on holidays together ... Errm we do activities together, everything together… Halloween party together ... go to Spain, Alton towers ... wherever together errm we kind of live and breathe each other in that sense.* [RE5 Tenement]

This emphasises the point made above that some tenement dwellers are willing to create convivial environments where meaningful social interactions can take place. This also perhaps suggests that there are some things that can be done to make tenements dwellings favourable to positive and meaningful interactions. Chapter 10 discusses some of the interventions that can make this happen.

8.4.3 Negative interactions – conflicts

The literature points out that strong ties, and thick trust, can also result in negative interactions (refer to discussions in section 2.3). The literature explains that where there are strong connections between people these can lead to conflicts. The effects of negative interaction on mental wellbeing are not explicitly explained in the literature even though the advice is not to avoid studying the negative effects of interaction on mental health and wellbeing (Lyubomirsky and Lepper's 1999; Folkman and Moskowitz, 2003). We find in the literature that making the connection between mental well-being and social interactions can be effectively done by looking at the benefits gained from being in a social network system within which social interactions occur. Berkman (2000) and Kawachi and Berkman (2001) explain how within a network the stress-buffering effects and main effect models influence mental well-being. The former is an indirect effect of support whilst the latter is a direct effect of support felt from another by a person within the network. Negative interactions means the absence of both (stress buffering effects and main effect) and therefore cannot be beneficial to mental well-being. In the case where both effects have been provided and then

withdrawn resulting in the negative interactions, it can only be assumed that the effect on the person or person involved will be detrimental to their wellbeing.
As mentioned above, where there are positive interactions due to strong ties and thick trust, there are also more opportunities for negative interactions as a result of broken ties and non-existent trust. Weak ties do not often generate negative interactions as there would have been no or minimal opportunity to develop strong emotions and connection. This is not to say negative interactions require prior strong ties.

In the study, the deepest positive interactions and thickest trust were identified where there were the most negative interactions and conflicts. This was associated with the tenement dwelling only in this study. See the quote below as compared to that on the previous page.

> *... they think they are better than us ... basically there is only a couple of kids down this way ... so this where all the moaning goes on basically. So they all think that they are better than what we are at this end ... they all send their kids up to ours [referring to their back green space], but as soon as our kids go down there, that is completely different. So yeah it is a big battle* [RE5 Tenement]

Proximity is known to create opportunities for social interactions, but in this case, it didn't. This reflects the point made by Bramley et al. (2009) in the literature that close contact at high density can cause annoyance. Forrest and Kearns (2001) state that neighbourhoods with strong cohesion could also show signs of fragmentation due to conflicts caused by aggravation. These conflicts have a negative effect on health and wellbeing (Robinette et al., 2013). An analysis of the data shows that the sharing of space sometimes resulted in conflicts and annoyance within the 4-in-a-block dwelling and tenements (see the findings in chapter 7).

8.5 Involvement and sense of belonging

Involvement and sense of belonging have been tested through community activities, but first of all the section will look at how the concept of community is expressed, followed by a look at what people do for the community.

8.5.1 The place as a community

An observation made from the literature is that there is difficulty in defining exactly what a community is. Particularly in urbanism discourse, the term seems to be confused with the term 'neighbourhood' (see section 3.3.2) when it is associated with a spatial dimension. From discussions had in the literature, the community is described as people connections/networks which might be place-bounded. In regard to the latter, communities may be virtual (on-line group), corporate and so forth. When a community exist within a spatial milieu, especially/ typically a residential one, then the term neighbourhood qualifies it. If one is to simply synonymise the term neighbourhood, then, even without a 'community' a residential area can be classified as a neighbourhood. This might be due to physical properties which creates an enclosed society devoid of physical visible barriers, but might have social barriers in the form of social class. In this study, the community that exists within the neighbourhood is of interest here. This section of the chapter tries to ascertain the sense of community within both areas and also to see if certain built form types express this more than others.

The observation made in both study areas was that these places were communities and that participants generally felt a sense of belonging to them. Lochner et al (1999 p 262) define this sense of community as a *'collective characteristic not to individual relationships and behaviours'* and so some anecdotes below portray how the study areas are seen as communities.

> *Just I suppose what I did say about Currie being quiet a community orientative kind of place errrm and that is one of the things that... kind of ... I guess other places are kind of too but because I know Currie, having lived here as a child and then moved away and you do find that a lot of people have...I don't know … it more just a place to live than...where Currie seems more a place to be part of ... errm which might have good and bad sides to it … I am not making a judgement there … it is just that it does seem … for somewhere that is just a mile up the road ... it is quite a different character of place ... errm ...* [CU2 Semi-detached]

> *There is not sense of 'you just moved in and you know you don't fit in here' ... Everybody is very accepting of where people come from … the neighbours and the sense of community... it just feels like the loveliest community you could*

have… you know that sense that you are going to go onto the street and meet someone you know … And people who used to live on [street named] and have moved will often say, … 'oh I remember [street named] I loved it there, the sense of community' was great. [RE11 Terrace]

It is important to note however that the concept of community will mean different things to different groups. One participant explains that for parents it is automatic to think about being part of a community or have a need to be part of a community, whereas for other groups, this might not necessarily be the case (see quotation below).

... yeah I mean feeling settled ... there is many reasons for feeling, I suppose feeling part of the community now … errrm in a way that you don't, ... I don't think until you have children ... I think it makes a huge difference ... errrm as an adult … not part of a family ... as a child then you do ... because then through your parents...but I think...once err...you...as a couple … it is very hard to integrate yourself into a community, once you start to have a family then its automatic I think really ... [CU7 Semi-detached]

Williams' (2005) study of social interactions within co-housing design indicated that family households reported more social interactions (i.e. within community B). Abu-Ghazzeh (1999) also reports of parents creating a community of mothers, who watch over their children in central spaces. This concept 'community' is therefore linked to differences in need and the benefit sought. For most of the participants, (as parents), their residential area seemed like a place they preferred to live and be part of, even when there were issues that were not favourable to them.

I can't think of a better area that I will bring my kids up in. Currie is lovely it's ... you know ... errm it is really nice ... Yes so overall it is lovely area ... I enjoy living here ... errr I just wish there was more to do and sort of more access ... just be nice if there was more sort of community things as well to do. More events that everybody comes together ... It's not ... they don't really ... it's not like a really welcoming ... It's a welcoming area in the sense that it is nice ... and quiet, but not … it is not really nice like that ... so it's hard to get to know people ...[CU11 Tenement]

These could be interpreted to mean contentment of a sort which is an indication of positive mental well-being.

8.5.2 Doing things for the community

The element of 'doing something for the community' was used to test participants' sense of attachment to that community. In previous sections we see that people 'get on' with other people/neighbours although there is an indication that there are more superficial interactions and connections than deeper interactions and connections. There was a need to look for other elements that may highlight connectedness to the community and one measure was through community activities or groups. Participants were asked if they did things as in an activity for their community. As a general observation, taking part in a community activity was negligible and this was because there was not the time due to child care duties. Where any form of community activity was undertaken, it was centred on the children, which proves the point, meaning the activities that the sample undertook and identified as community activities were school and after school club child-related activities. This was not unexpected. Community activities were undertaken as a necessity and not to connect per se.

> *School ... also cos I do some volunteering as I am in the parents council so I spend half of my life [laughs] ... feels like. Because I don't currently work, I am not ... sort of properly working ... ok ...* [CU7 Semi-detached]

So it cannot be said that there was an intentional attempt by people to establish a network with others within the community. However, tapping into the social capital (which includes their connections and social establishments) of the children was common as Putnam (2001) mentions it to be the case for parents. For the reason given above, it was not clear that doing things for the community necessarily meant or could be used as a measure of connectedness for the sample group. To further add to this, some participants indicated that they were not involved in any neighbourhood activities but were involved in some form of activity that was of interest to their community.

> ***Interviewer: Are you involved in any community activity?***
> *Participant: No ... none at all ...* [RE5 Tenement]

Then later she explains,

> *We run that mothers and toddlers ourselves though. They have got nothing ... Like we run that, we pay for the hall ... for the time we are having it. They have got nothing to do with us, being mothers and toddlers … they don't do anything for us ... we do it all by ourselves ...* [RE5, Tenement]

She further suggests things she would like to see happen in the area

> *Yeah, I would like to see them opening that place [community centre/hub] and having the use of that and putting the youth… having the youth workers out in the street ... talking to the kids in the street. Why not just open the building and having them working in there with kids and doing stuff [*RE5 Tenement]

A possible reason for not associating the doing of things for the community with participating in community activity could just be an issue of attributing different meanings to both. Perhaps her understanding of participating in community activities is about being part of a regimented group which is different from her informal way of working for the community.

It was useful to investigate the different viewpoints on community activities by different demographic groups. It is not always the case that child care responsibilities influenced the type of community activities one undertakes. There were yet other examples of the desire to do things for the community because of their attachment to it which are not linked to children and their activities.

> *And I just think the more people that use something like that. Especially at 5 o'clock, there is so many dog walker use it and I just think like that is how you meet your community guy ... by using stuff ... I mean like it was Sustrans that worked along that … I have done that cycle path … There are signs up saying ... so I feel like I should just write them an email and just say thank you like that. Because I don't imagine people do things like that so much* [RE6 Terrace]

Interestingly, wanting to do things for the community or observing that more could be done was expressed mostly by tenement dwellers. In the same vein the sense of not belonging to the wider community was also expressed mostly by tenement dwellers.

The examples provided below show how tenement dwellers say at one point during the interview that they would like to, or they do things for their community, but at other times during the same interview they then say they do not, or feel that they do not, belong to the community. Not all aspects of the anecdotes below had something to do with the tenement built form. Not feeling part of the community were based on different things but then again had a connection to the character of the built form, for example expressions like being a 'blot on the landscape'.

Quotation A

> *... we all come together as the residents association and yeah they deal with issues ... like I suppose, upgrading the properties, errr littering, errrrm polls complains to about the dogs, they might address that... working with the land lord, the social land lord, errrr, and trying to work with the greater community...* [CU9 Tenement]

Quotation B

> *I have hardly any friends in the area....errrrm ... and there is hardly any place to meet up ... I find it quite prejudiced against my little group of social housing [laughs] and errm an there tends to be a view and it has been expressed to me a couple of times that the people who live in these houses are a 'blot on the landscape' that we all live on benefits and are all drug addicts and errrrm oh God problems which is not the case at all ... Everything I am telling you ... is common to every other person in the stair ... you know in the flats ... because it does feel like a bit of 'them and us* [CU9 Tenement]

Quotation A

> *Yes so overall it is lovely area ... I enjoy living here ... errr I just wish there was more to do ... Errrm, either there is loads to do and we just don't know about it ... it's not well enough advertised ...but I just find there is nothing ... on for the kids…they have ... a couple of dance classes the school has things on...again they are not great at communicating it with you so you don't really know what is happening ... errrrm It will just be nice if there was more sort of community things as well to do ... More events that everybody comes together.* [CU11 Tenement]

Quotation B

> *I think it's because I have not really had the chance to look into anything community wise ...you know there's not been a point in me looking for anything*

because I have not been able to commit. Errrm So I don't really know ... Errrrm yes ... so it's probably more that I have not looked into anything that I would like. It will be nice to get involved with something [CU11 Tenement]

Quotation A

I did say there are community flats in Piershill and that was me at one point thinking well maybe it would be nice to see who lives in the community and what is happening, so I went along ... just to find out [RE7 Tenement]

Quotation B

*It's one of those pubs where you are like...I have been into that pub and I think people have turned their heads because you know they are like… they really are locals and probably have been going there for years and years ...[*RE7 Tenement]

In chapter 6, one thing that was found was, people living within the tenements did not feel they belonged to the community and one of the reasons was stigmatisation. Therefore it is a possibility that the expression of doing things or wanting to do things for the community by the tenement dwellers (as in the quotations above) could be a desire to want to belong or a way to see some improvements in their situation. Another factor that seems to explain the reason why tenement dwellers did not feel they belong to their community was tenure which might be linked to the first point of stigmatisation. It has been said in section 6.2 that, most of the sample who lived within the tenement dwellings rented their accommodation from social landlords (see table 6.1), and they felt segregated from people who had bought their homes. Hence the feeling of not owning a space (a home) within the community perhaps resulted in feeling not part of the community. This feeling of not being part of the community can affect positive social interactions and have a negative effect on a person's mental wellbeing (Robinette et al., 2013). The issue of not feeling belonged to a place because of renting is rooted in a general norm of tenureship in Britain.

In Britain, most people prefer to own their homes than rent it (Halpern, 1995; Hiscock et al, 2010). There also seems to be an issue particularly with social renting, which was the case for most of the tenement dwellers in this study (see section 6.2). According to the housing statistics for Scotland, as of 2014, about 28,239 households rent their homes from social landlords. This is out of the total stock of about 397,000 households

(Scottish Government, 2014c). In chapter 5 section 5.5.2, the statistics in Edinburgh (and Scotland for that matter) shows that more people own their homes than rent it either socially or privately. With this information it can be said that if more people own their homes, then it is likely that more tenements have been bought as well as it makes up about 45% of the total housing stock. Some work can be done to identify the percentage of tenement dwellings and households owned and those rented, which ties in with the recommendation for further studies mentioned in chapter 9, section 9.5.

So far, we find that different things can affect positive interactions and also negative interactions within the residential environment. They are: general interactions from and for weak ties; deeper interactions from and for strong ties; and being involved in the community where you live. The evidence is that these three things happen within all dwelling types and can be good or bad for social interactions. As to whether it affects their mental wellbeing or not, it is not clear. The next section will look into this.

8.6 Measuring social interactions' effect on mental wellbeing

Testing to see if social interactions did have a positive effect on people's mental well-being was not particularly straightforward. In the literature a link can be made between social relationships and mental wellbeing through an analysis of the social network. The cognitive benefit that one accrues from social relationships provides the emotional benefits people need to thrive in varying circumstances. Even if the relationships are weak or strong they tend to have benefits which affect people's wellbeing in one way or another (refer to discussions in section 2.3). A link between social interactions and mental wellbeing is almost non-existent but linking social interactions to mental wellbeing can be done through the social ties that people make with others. This is because the characteristics of the different social ties mirror the characteristics of the different social interactions available (see figure 2.4). As mentioned previously, social ties which are either strong or weak can influence mental wellbeing. It was found in this study that weak ties, mainly from unplanned superficial social interactions among neighbours, seem to be sufficient for mental wellbeing, and weak ties were the common social ties established within all the dwelling types in this study, with the least being within tenement dwellings (refer to discussions in chapter 6). It was useful to find if the mental wellbeing status of the participants within the different dwelling types varied. As

explained in chapter 4, mental well-being data was gathered from the participants, using the SWEMWBS tool and the results for the two areas have been produced below. Chapter 2, section 2.2.2 explains what the SWEMWBS scale is.

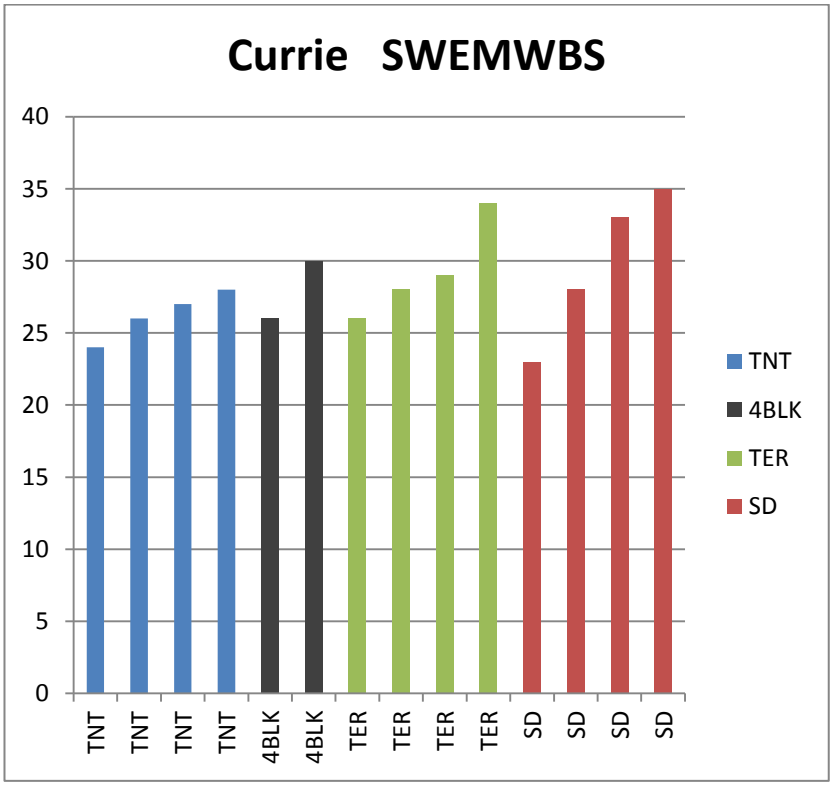

Figure 8.6 Showing mental well-being scores for participants in Currie

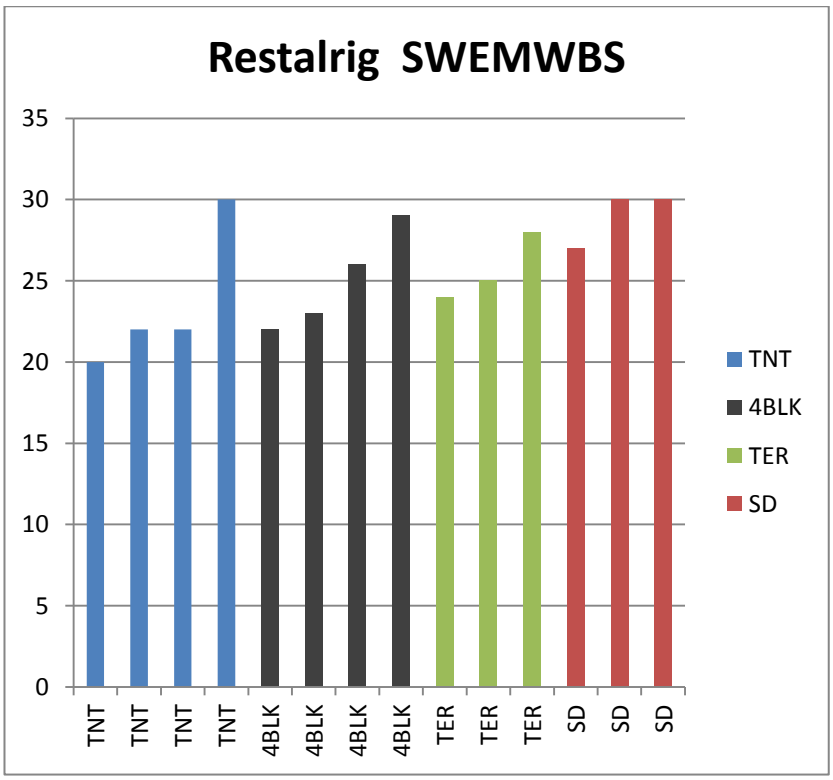

Figure 8.7 Showing mental well-being scores for participants in Restalrig

From the SWEMWBS figures in figures 8.6 and 8.7 above, a strong conclusion cannot be made with regards to which dwelling type influences the highest or the lowest mental wellbeing even though the semi-detached, terrace and 4-in-a-bock dwellings favour social interactions. The figures 8.6 and 8.7 show that people's mental wellbeing is not susceptible to a particular housing. A closer look however at the graph for Restalrig (figure 8.7) shows that more people living in the tenement dwellings have lower mental wellbeing scores than those living in the other dwelling types. Then again there is one case of a tenement dweller that reports a high SWEMWBS score of 30 which is higher than most of the people living within other dwelling types. Also when looking at the case of Currie in figure 8.6, some people living within the tenement dwelling report higher mental wellbeing scores than some people living within the other three dwelling types. Overall however it seems that most of the highest mental wellbeing scores have been found with people living in the semi-detached and terrace dwellings in Currie as can be seen from both graphs (figures 8.6 and 8.7). Again no solid conclusions can be made with this data from this sample.

One way however to connect housing type to mental wellbeing is through housing tenure. Results from the 2012 Scottish Household Survey (Scottish Government, 2013) found that, self-perceived health was low or reported as bad from people living in social rented dwellings than from owner occupied households or even privately rented households. In the Scottish Household survey, self-perceived health was measured using the SWEMWBS scale (Scottish Government, 2013). In figure 6.1 all but one tenement dwellers lived in socially rented flats. This should have perhaps resulted in lower mental wellbeing scores being reported for the tenement dwellers in the graphs in figures 8.6 and 8.7, but from the graphs in both figures above it is not entirely the case. One of the highest mental wellbeing score was from a tenement dweller living in a social rented flat. Then again the sample is small to conclude along these lines.

The literature however says that people living in flats are generally unsatisfied with this type of housing (Marmot and Wilkinson, 2006). There are plenty of reasons to suggest why this might then rub off on their social interactions when referring particularly to the health giving effects of social support (Marmot and Wilkinson, 2006). In this study however it was found that fewer interactions or even conflicts did not completely erase happy emotions and this could happen to anyone living in any dwelling type. For example in this study one tenement dweller mentioned that there is a historical conflict among neighbours within her block, but at the same time, she has got very good relationships with others within the same tenement block. She subsequently rated the element of her 'feeling close to others' in the mental wellbeing assessment highly (3 out of 5).

Quotation about the conflict between neighbours

> *Participant: … it is a big battle, it is like battle field down the end basically*
>
> ***Interviewer: And how long has this been going on?***
>
> *Participant: Years ... Years and years and years so ... Since my husband has been here... his cousins and all the rest of it ... There has always been somebody on this side that moans about the kids … yeah. We all ended up with a letter last year from the council stating that our kids weren't allowed in the back green... so that became a big massive kick up basically, so now they decided that we all obviously own the back green ... and should be out there but no football games allowed. Which is fair enough ... I understand that,*

but even if the kids were just even like go down out there and one of them sees them, they just start… [RE5 Tenement]

See the quotation about getting on very well with neighbours on page 237.

Also from the examples below, some participants living in houses expressed via the interview data high levels of neighbouring and a strong sense of belonging to their neighbourhood. These are often associated with high mental wellbeing as seen in the literature in chapter 2. However despite the positive reports of neighbouring, these participants scored low mental wellbeing scores (SWEMWBS 22) in the mental well-being assessment, which is lower than most in this sample (actually the lowest score by the sample).

Well you kind of say, well we are having a bbq you know… bring your own bottle, there will be plenty of sausages and burgers and what not ... just bring your own bottle. It is nice that way. I have to say that there is a nice sense of community that way ..., it's lovely. That is why I have been there so long ... [laughs] [RE1 4-in-a-block]

There is not sense of 'you just moved in and you know you don't fit in here'... Everybody is very accepting of where people come from … And because we always sit around saying' oh we love the street so much and you can't leave your front door without meeting people out there ... [RE11 4-in-a-block]

This perhaps confirms what was said in the literature section 2.2.1, that the presence of negative emotions does not completely erode the presence of positive emotions. Therefore fewer interactions does not mean no form of social relationships occur among tenement dwellers, neither does it mean this negatively affects their mental wellbeing

Overall, participants in Currie recorded higher mental well-being scores than participants in Restalrig. This again is what is in line with what you would expect given that levels of planned interactions were higher in Currie than Restalrig. However reports of use of the residential environment by the participants from Restalrig were higher and therefore there were opportunities as well for more unplanned social interaction and

possibly positive interactions. Then again because participants in Restalrig reported more interactions throughout the study, the expectation was that they would report higher mental wellbeing scores. This is because there was the impression that there was more cohesion with neighbours than did the participants in Currie but that is not what the data collected showed. This goes to show that connecting social interactions to mental wellbeing can be complex.

In this study, a conclusion cannot be made that any particular dwelling type presents/reports higher or lower mental well-being scores because of social interaction. It shows however that some dwelling types have fewer interactions than others, with the wider evidence showing tenements are the least favourable for social interaction.

8.7 Neighbouring today – a concluding discussion

There was a general sense that participants felt that neighbouring in current times was in decline. Evidence from this study show that people seem to know their neighbours and interact with them on a fairly superficial level. It is supposed that the decline of neighbouring is because of the ever increasing individualised way of life and also the virtual nature of our interactions with each other. People do not need to have their friends close by in terms of physical proximity because they can make such connections virtually. We see one of the participants expressing the fact that the type of neighbouring that she learnt about from her parents does not exists anymore. This confirms a point made by the Young Foundation (2010) that the type of strong ties, thick trust and strong social connections that existed at the neighbourhood level about 50 years ago does not exist any longer.

> *We have lived in Edinburgh 4 years. I am from Aberdeen. My husband is from England... and you think that your neighbours will be the people that you make friends with when you move to a place, but it doesn't happen. Your friends tend to come from work and things like that, but/than the people that you actually live in close proximity to... again I will just call these people acquaintances ... rather than friends or even very neighbourly… this neighbourliness that used to exist in*

> *my mum's generation that doesn't exist anymore. My mum's neighbours will do things like taking her washing if it was raining, and that doesn't happen anymore and I don't know why that doesn't happen ... [laughs]. People will just leave your washing out if you are not at home...and it's been raining, it will still be there when you get home, where as my mum, still to this day ... if it is raining she will know it's her neighbours and juts take it in ... and little things like that* ... [CU14 4-in-a-block]

Perhaps the way in which the community within the neighbourhood is viewed should be reviewed or better still changed. It is fair to say that neighbourhoods have evolved as this has been largely due to the changing roles of women in society and the much greater participation in the work force. The change in the community within the neighbourhood calls for a new way of viewing the neighbourhood. This draws on from literature by Forrest and Kearns (2001) that there is *'the need to think in terms of 'neighbourhood transformed' rather than neighbourhood lost in our formulations'.* The neighbourhood has become more of a place where a social identity can be formed and which provides a functional space used for everyday activities. Though the neighbourhood might not necessarily be a place where social relationships are formed but rather a social identity is established by the people living there, the condition of the spaces of the home-patch/neighbourhood is important. We see in chapters 6 and 7 issues regarding the condition of the spaces within the residential areas (home-patch) or neighbourhoods and how this affects social interactions. Even though there is the evidence that there are more superficial interactions within the neighbourhood, there are of course instances where the evidence shows that interactions mirror thick trust characteristics and some of these have been because of favourable environmental conditions.

Chapter 9 Research Conclusion

9.1 Introduction

This chapter summarises the research and discusses the way forward. The chapter will first describe how each research objective has been achieved. The overall aim of the study was to explore how positive social interaction arises within different residential built form types. To achieve this aim, a number of objectives were set and sections 9.2 will explain how they have been achieved. Section 9.3 focuses on the main finding of the study due to the meeting of the research objectives. Following that will be design suggestions that may be considered based on the findings from the research. Two sets of recommendations are suggested because they meet different needs. The first set of recommendations is in regard to the houses and the second set of recommendations for the flats dwelling type. This is because the key finding requires paying attention to the betterment of the tenement with regards to encouraging social interactions. Section 9.5 outlines future possible research. This lends itself to the limitations identified in this study and how these could be addressed in future planning research. The chapter concludes with a discussion on some lessons learnt in this research.

9.2 Meeting the research objectives

Objective 1: To develop a conceptual model of theories to explain social interaction and its connection to mental well-being. This was fulfilled by asking: *what theories define and explain social interaction and mental wellbeing?* This was answered in chapter 2.

Social relationships are good for mental wellbeing, but the connection between social interaction and mental wellbeing has been overlooked in the literature. Social interaction is an act and is behaviour of exchange between two or more people. Social relationships are developed because of this exchange which then develops into a form of social connection. Using the network system we see that the outcome of social relationships which includes support, influence, connections affects mental wellbeing either positively or negatively. However, weak social support and still has the ability to influence mental wellbeing in a positive way. Within a neighbourhood, weak ties are

plentiful and are naturally developed from the equally plentiful social interactions. As such this is where a connection can be established between mental wellbeing and social interaction. To explain this further, the plentiful nature of weak ties and unplanned interactions are primarily due to the culture of interactions and sociability in this part of the world of which Edinburgh is inclusive. This means interacting this way (superficially) is acceptable and seem to be beneficial. There a number of reasons why there are more superficial unplanned social interactions. The first is: to control interactions. We have seen through the thesis that having some form of control over a variety of things is important for the positive interactions good for mental wellbeing. The second reason for plentiful superficial unplanned social interactions is to avoid the friction and possible negative outcomes (conflicts, fights) that may come from extreme neighbouring or excessive social interactions. It makes sense then that the unplanned interactions which mostly result in weak ties seem acceptable and is still good for mental wellbeing.

Objective 2 explored the concepts and theories that describe residential built form and associated features. This was achieved by asking: *what concepts and theories explain the residential built form design and layout?* We see in chapter 3 that the built form is a social entity. Dovey (1999) states that the built form cannot be described as a physical place only. It only functions because of the social life that happens within it. Adding to this, we see in chapter 2 that sociability is important to humans and hence an environment built without this in mind has failed to provide an inherent human need. The need to meet housing needs for a growing population affected how the built form layout and patterns were produced, as such people's social needs were not necessarily incorporated in built form patterns and layout. We see examples in Chapter 5. Some argue that this inherent human need to be sociable has not been considered within planned environments and this needs to be brought back (Smith, 1977).

Objective 3, examines social interaction and its link to the built environment. The research question asked was: *how is social interaction linked to the built environment?*

The second half of chapter 3 examined research on the built environment and sociability and found that some factors are important to enhancing sociability. The first factor is spaciousness. Small and big sparse spaces discouraged social interaction therefore providing space has to take into consideration the dimensions that are welcoming as

stated by Edward T Hall. The second factor was a soft edge or a gentle transition between space types, for example public into private. The third factor was that medium densities seem to favour social interactions, but it is not clear exactly how or which dwelling type within the spectrum of medium densities does favour interactions. The fourth was that pedestranised streets are of course good for social interactions. These four factors can afford the perception of privacy and safety, which in turn affect social interactions. It was not directly clear that the social interactions that occurred were positive and health enhancing. Objective 4 sub question c looks into this.

Objective 4 looked at how positive social interaction arises from space use within the different residential built form types and asked: *how does positive social interaction arise from space use within the different residential built form types?* To help answer this research question, three sets of questions were asked as listed below:

a. *What influences meetings between residents?*
b. *Where do people meet (to interact) and which space is the friendliest interactional space?*
c. *Are the interactions that occur within these spaces (identified in b) positive?*

These questions, a, b and c were addressed in chapters 6, 7 and 8 respectively. Aspects of question c were answered in chapter 7.

The answer to *question a* is that, a variety of factors affect social interaction within the residential neighbours, this includes the types of activities people undertake and their perceptions about places and spaces. To an extent it can be said that their perceptions about the places and spaces might have affected the types of activities they undertook. But general everyday activities which required the everyday use of 'all' places were examined. The issue is perception can be positive and therefore will encourage social interactions. It was found then that tenement dwellers did not interact much around and sometimes within the tenement blocks and even beyond. A factor was because they did not perceive their immediate environments as friendly for social interactions. The next thing was to understand the dynamics and the characteristics of the places and the spaces people interact with each other at, which leads to answering question b.

The most popular place and space used for social interaction was the street and the front space (either garden, or driveway) of the dwelling. There is also the common area and

the stair way. It was natural for people to meet in these spaces, because of everyday movements (and traffic) that occur within them. This was the case for the semi-detached, terrace and 4-in-a-block dwellings but not the tenements. The front spaces of the tenement dwellings however were not designed for any form of social interactions even when unplanned. Planned interactions on the other hand happened within the back space or garden and sometimes within common areas.

In answer to *question c*, the impression gathered from the study is: interactions had within and around the spaces of the semi-detached, terrace and 4-in-a-block dwelling were on most occasions' positive interactions. People were happy to interact or, in other words, were happy interacting with people within the spaces of the three dwellings. One of the factors that led to investigating if the social interactions that happen within the spaces were positive was mainly due to lack of research in this area. Various studies on social interactions and the built environment focused on places where interaction occur the most but not on why they happen there. The motive behind the interactions is the key to identifying if people indeed want to interact with others where they do as well as are happy whilst interacting. This study investigated this motive and came up with some suggestions to further enhance positive interactions in the spaces around the house (see figure 9.1).

The literature and the analysis carried out through the chapters in fulfilment of objectives 1 to 4 consider the implications for objective 5. The aim of objective 5 is to make recommendations to planning practice and design standards to promote salutogenic residential environments. Before detailing how objective 5 was achieved, the next section will look at the key finding of the research. The outcome of the key finding will lead to a discussion on how objective 5 has been achieved.

9.3 Key finding

This study revealed one thing which is: tenement dwellings and their surrounding environment do not encourage positive social interactions among neighbours. This was the case in both study areas. The main reason attributed to this is design. The design did

not encourage *control* and the *affordance* (either perceptually or factually) for interactions. It was observed that people desire to have control or to make the space friendly. Control here simply means the ability for people to feel that they own the space around their house and can do what they want, to a reasonable extent, with the space. This is whether they rent the house or own it. This control is very useful to neighbourhood social interactions and people living in the tenement had less control over the spaces around their home. This then had an effect on social interactions.

Where to a large extent this finding is associated with the design of the tenement dwelling as seen in chapter 7, tenure also has a part to play in this. Table 6.1 shows that all tenement dwellers rented their homes and had fewer interactions at home and away from home. Spaces and areas around the home were known to be the home-patch and all the spaces described in chapter 7. Places further from home though, were not known. The places further from home could be the park or the playground or places within the neighbourhood in general. If so then it can be argued that the tenement dwellers did not have a sense of belonging not only to the home patch area but also the wider neighbourhood. We also see in chapter 6 that mainly the tenement dwellers had a number of places within the neighbourhood which they describe as neighbourhoods, i.e. a place where they know people and familiar with. This again could mean that these tenement dwellers did not feel they belonged to the study area or wider neighbourhood within the study areas.

Going back to the point about tenement dwellers renting their homes, it seemed that renters do not feel a sense of obligation about the spaces where they live and hence did not do much in terms of socialising with neighbours. This is confirmed by findings by others. According to Rossi et al. (1996) and Rohe and Basolo (1997) home ownership has a positive and significant impact on: life satisfaction; self-esteem; participation in neighbourhood and block association meetings; higher rates of participation in voluntary organizations; community membership and local social interaction than continuing renters. In this study however, renting and having a sense of not belonging is only associated with the tenement and not the other dwelling types. In table 6.1 some participants living in the other dwelling types and rented their homes and there was no indication they had fewer interactions with their neighbours or did not have a sense of belonging to their neighbourhood. It is important to emphasise however that the evidence (3 cases in total) is not enough again to make this conclusion. Again it cannot

be concluded that tenure was the main reason why the tenement dwellers reported fewer interactions. This is why design has been considered as a reason for the fewer interactions that happen around and also in some cases within the tenement dwelling blocks observed in this study.

To investigate if the issue of fewer interactions by dwellers is being caused by design or tenure, it will be useful to investigate the dynamics of social interactions within the different tenement tenure, i.e. owned versus rented. The interest at this point is to look into how the design of the tenement might be improved to encourage positive social interactions which are good for mental wellbeing. A point to note however is that, there was no indication that people living within the tenements had lower mental wellbeing (refer to discussion in chapter 8), however there were observed reports of conflicts which arises from using the shared spaces. As explained in chapter 2 conflicts can have a negative effect on mental wellbeing. At the same time, there were some indications of the development of strong social ties which of course were developed from planned interactions happening within the tenement dwelling. This shows that should the opportunity of conviviality be given, tenements can have positive interactions. The next paragraph provides further recommendations which are more in the form of suggestions to creating a convivial tenement environment that encourages positive social interaction. This is fulfils objective 5 which is to make recommendations to planning practice, design standards to promote salutogenic residential environments.

The focus on the tenements is mainly because it was found not to encourage positive interactions as compared to the other three dwellings. Though the study is qualitative and hence findings cannot be generalised, it is believed that the conclusion made is robust because of the various sources of data that revealed the same outcome. Considering tenements make up a large bulk of the housing in Edinburgh (see section 5.2) with this finding, looking at ways to make them convivial is beneficial. The solution for creating convivial environments around all the other three dwelling types have been expressed in the models in the form of design interventions provided in section 9.2.

9.3.1 Study contribution

New research was needed to examine and understand how the residential built form influences positive social interactions, particularly now when the need to create salutogenic environments is encouraged by planning. As a result a question was asked: *does different residential built form affect positive social interaction among residents?* The answer is yes. The design of the semi-detached, terrace and 4-in-a-block dwellings and their surrounding spaces encourages positive social interaction among neighbours. The main reason is that people living within these dwelling types have a certain degree of control on the spaces around the house and as such it influences positively on how they use this space to interact with people living around and close to them. The design and configuration of the spaces around these dwellings affords the control they perceive to have. The control is about the sense of ownership over the space around the house whether they own it or not. The tenement dwelling on the other hand did not favour positive social interaction. The reason is because people living in this dwelling type did not perceive to have a sense of ownership over the spaces around their home.

This study identified how the use of space around people's homes influences positive social interaction behaviour. As part of the investigations, novel data methods were developed which helped to give insight into what would influence positive social interactions. Rather than design residential areas which are believed to be convivial, planning should aim at giving people autonomy over spaces around their home. This certainly encourages its use for positive interactions.

9.4 Planning Suggestions

As mentioned in the introduction. Two sets of design suggestions have been given to planning practitioners. The first sets of recommendations are for the houses but including the 4-in-a-block dwelling. In chapter 5, the 4-in-a-block dwelling is classified as a flat, however in this study information on social interaction within this dwelling type was similar to that of the semi-detached and the terrace. Therefore the 4-in-a-block in this instance has been categorised as a house. The second set of recommendation is for the tenement dwelling. As mentioned in section 9.3 this dwelling type did not

encourage positive social interactions. As such, suggestions to improve upon this have been highlighted below.

9.4.1 Suggestions for the semi-detached, terrace and 4-in-a-block dwellings

The discussion on how objective 4 was achieved led to some conclusions about how the character and arrangement of spaces around the house influences positive social interaction. These design recommendations listed for the various spaces around the different types of dwelling have been summarised in the box below. These may be considered in planning policy research on residential design. However, caution must be applied as the results cannot be generalised because of the size of the sample but then these can serve as a guide to embarking on further studies that test peoples social interaction behaviour as influenced by the spaces round their homes. The details in figure 9.1 below provide design recommendations which will make the front, back, stair, communal and street spaces favourable to social interactions.

FRONT SPACE: ***partial enclosure which provides some level of privacy but affords connectivity to a public realm, plus a high level of control over the space.***

STAIR: ***increased control through increasing space, improving security and creating an aesthetically pleasing outlook.***

STREET: ***calmer street plus aesthetic enhancements.***

BACK: ***full enclosure for privacy* to allow high degree of control over the space by the dweller or a partial degree of control over the back space by establishing soft openings.***

COMMUNAL SPACES (spaces around tenements): ***to enhance the level of control and privacy over the communal spaces through providing some enclosure.***

*Privacy mentioned above is mainly for the dwellers of the various dwelling types

Figure 9.1 Summary of suggested planning design models for the various spaces within the various dwelling types. This is applicable to the tenement dwellings.

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9.4.2 Design suggestions for the tenement dwelling

Section 7.5 examined the communal spaces and identified some of the reasons that prevent positive social interactions from occurring within the tenement dwelling and its environments. Out of these factors, attention has been paid to two of them and some recommendations have been provided. The reason for looking at two of the points is because planning can influence such changes with regards to design interventions.

1. ***The first is providing control over external spaces for people living in the tenement dwelling.*** This has been a new finding in people environment research regarding creating salutogenic residential environments. It can be said that the other factors such as spaciousness, pedestranising residential streets, providing good quality and aesthetically pleasing environments is all important, but control seems like an influential element which simply means allowing people to govern external spaces. High quality spaces are useful for maintaining well-being and quality of life generally (Urban task force, 1999). Therefore it is likely that providing dwellers with some level of control over the external spaces around their home can be tantamount to providing a high quality space. This can be done by providing privacy through full to partial enclosures. Of course high-rise developments are not favourable to sociability as more people using a certain amount of space will have design implications and difficulties in exercising control over external spaces. However for the tenement, which is still high density, providing a good design will provide the necessary control the dwellers need to encourage everyday interactions such as those that happen within the front areas of the other dwellings and also planned interactions.

   It is also important to consider giving dwellers autonomy on design issues, which is a say in how their shared spaces are designed and managed. This will work with tenement dwellers living in bought homes and not rented homes, because social rental tend not to have a say in how the spaces are designed and managed.

   The question is what is good design that will provide control? This can mean a variety of things. For example, it can mean: fencing off spaces at the back and

even the front to create enclosure; providing balconies for all flats; breaking up the common access space to give two or three dwellings their own access to outer spaces etc. These examples have been listed based on analysis carried out on the spaces around the dwellings which helps with identifying what people might want. The only way to know exactly what people will need is to conduct further studies. Studies should identify how people want privacy within the tenement. Another way is to investigate how residents can manage the space as explained above. A quantitative study which identifies preferences will be useful. Providing control through privacy will solve the problem of management and to an extent the activities undertaken within them. When people have a lot more control over the external spaces, it might provide an urge to manage them well.

2. ***The second is it to provide a soft edge or buffer between spaces.*** Where providing privacy fails, a fall back can be providing a soft edge between two different space types, for example the private dwelling and the stair and the front space of the tenement dwelling and the street. Soft edges encourage interactions as seen in section 3.3.2.

   We learnt in chapter 6 that people like to have their own space (linking back to providing people with the power to control spaces) and so a possible solution is to allow tenements to have clear demarcations of space types. So the private realm should be different from the public realm. Whereas this seems reasonable and is said to be useful (Porta and Renne, 2005) Jane Jacobs, disagrees with this order and advises against it (Jacobs, 1992). The issue with the tenements is that one cannot easily make such demarcations because of the design. It is usually a large block that contains a number of dwellings (six and above). Making clear distinctions between spaces might further divide the space and make it smaller or place huge territorial sanctions on the space which might make it hostile. A possible solution can be providing an area of space between space types such as the front open space of the tenement and the main residential street. In this study, spaciousness (see discussions in section 3.3.2) is important for encouraging social interactions. Therefore an area of space that gently introduces one space type to another will be useful. Again, knowing exactly what people prefer and how such spaces should be designed should fall on

further studies. A mixed method study which identifies the dominant preference will be useful to inform design policies for the tenement in Edinburgh, Scotland.

These two are the main planning suggestions made with regards to making the tenement dwelling and its surrounding spaces favourable to social interaction. The first point might not be a planning issue but part of occupants' entitlements which can be regulated through planning practice. These have been summarised in figure 9.2 below.

1. ***Provide control over outside spaces for people living in the tenement dwelling.***

2. ***Provide a soft edge or buffer between public and private spaces***

Figure 9.2 Summary of suggested planning design models for the spaces within the tenement dwelling.

9.5 Areas for further research

The planning design recommendations provided in figure 9.2 are subject to further studies just as mentioned for the set of recommendations given in section 9.2. The qualitative nature of the study requires that the sample size cannot be a representation of the demographic group in question. This is not a limitation of the study, as rather it allowed for in-depth information of how people use space around their house for social interactions to be captured. Section 9.3 explains how tenure might be an issue which affects the fewer social interactions that occurs within the tenement dwellings. As a result it will be useful to do further investigations into how the difference in tenure of tenements flats affects positive social interactions among neighbours. Tenure to some extent influences social interactions. We see this in chapter 6. Differences in tenure seemed to create stigma issues against tenement dwellers by the wider neighbourhood and these affected relationships between the tenement dwellers and other people living within the other dwelling types (refer to section 6.4.1). It would be useful to see if differences in tenure indeed affect social interactions. It is therefore recommended that a

mixed method study be carried out within Edinburgh to investigate how differences in tenement tenure, i.e. owned versus rented affect social interaction among neighbours.

It has been mentioned in the previous sections and also in chapter 7 that having control over the space around the home is important and influences social interactions. As a result it will be useful to investigate exactly what form of control in terms of design interventions people want to see around their homes within the tenement to encourage them to interact with other people. Advocating for design interventions may help to improve and even nullify social problems that might indeed influence negative social interactions (Macintyre et al., 2003). A number of questions will have to be asked to find out exactly what people want to see around their homes as well as what will make them willing and happy in interacting with their neighbours. Is it possible that the solution will be a move towards gated communities, i.e. when thinking about giving people control over the wider environment but then again avoiding segregated communities? Or is it a case of simple structural changes within the tenement dwelling itself? A number of possible and plausible options will have to be explored and future studies will only highlight these options. Planning will have to work with a strategy that is desirable for creating socially sustainable communities

A mixed method study will be useful to gather information about perceptions via qualitative information and numbers via quantitative information. The data for perceptions refers to a further understanding of what people want and the data for numbers refer to which design interventions is the most preferred.

Following the suggestion given above with regards to further research on the tenement, the next section reflects on methodological issues and explores lessons learnt in terms of how it can be applied to future studies.

9.6 Study limitations and a way forward

The main limitation in this research relates to the SMS data collection method. In this study an activity diary was adopted to gather social interaction information among

residents. A number of options were explored (see table 4. 1) and in the end the SMS was adopted. This method is novel because it has not been used before in planning research to gather information. The SMS data collection allowed useful information about how often and where mostly people use space to be gathered. This is useful because most other methods including traditional methods could not provide this information. Planning practice research needs to consider adopting such methods to gather data on space use. It will also help inform planning on what is actually going on where people live. The main challenge however will be sustaining interest, i.e. encouraging people to use SMS to provide data over time.

In the case of this study, the SMS survey occurred over a two week period, which to an extent was not enough and will be described as a limitation. The time allocated for the PhD research was limited and as such the piloting of the SMS method was carried out over a short period of time. Due to the novelty of the method, it would have been useful if the SMS data collection method and also the analysis of the data accrued were tested over a longer period of time. A suggested timeframe is one calendar year. This may have resulted in better outcomes in terms of the data collected and analysed.

Despite this short duration for the pilot exercise, the SMS method revealed that prolonging the survey will result in people losing interest and abandoning the survey all together. A suggested way of sustaining interest is to limit the survey to a maximum of a month and repeat the process three times. The different times and periods can be associated with three different seasons, spring or autumn, summer and winter to take into consideration average use of the environment. From observation, it seems people use their environments the most for interactions during the summer and this reduces significantly during winter. Capturing space use during the in-between periods will allow a true reflection of how people use their environments day to day for social interaction to be gathered. Therefore, three months' worth of social interaction information would have been gathered from a number of people within a year. It is believed that this will not be onerous for participants as the data collection would have been spread out over the year.

The SMS data collection method may have been used as the main data collection tool as in this study it proved to be successful despite the time testing limitation. However for maximum output, the SMS survey should be used in conjunction with other methods as

done in this study. Some suggested methods are graphic elicitation and art based methods. The efficacy of such methods is the ability to provoke and sustain interest. In this study, participants were encouraged to provide social interaction information using annotated maps and drawings of the spaces around their homes. Some expressed that they enjoyed using such methods (see appendix O). This was felt throughout the data collection exercise which means there is a high possibility that people will embrace such novel methods for collecting data about their social lives. Again a feasibility study to test these data collection instruments will be useful. Advanced developments of such methods, like the drawing of electronic maps on a phone through a phone application can help to get better outcomes.

Obviously there are some ethical issues to consider getting peoples phone numbers and keeping the information provided safe (see section 4.3). Smarter ways like providing participants with a non-expensive smart mobile phone could be adopted, as such in the incident of a loss of the phone, it will not create losses.

With regards to the analysis of the SMS data, a recommendation is to set up an analysis tool for the SMS data that will be gathered. In this study, the data was managed both manually and with software, i.e. NVIVO. Though the software can manage large scale data, it will be useful to set up a system which can manage the information as it is gathered. In the study the SMS data was transferred onto a computer. After the initial bulk sending of messages, subsequently, SMS were often sent individually to participants as seen fit. It was the case because some responses did not arrive in unison. In future systems can be set in place to ensure that the data as being provided by participants is transferred directly onto computer systems. Also the SMS questions can be typed directly from a computer to participants. Adopting such an approach will enable an increase in the number of recipients information is sent to. Also information can be sent in a systematic way to avoid it being laborious and avoid the possibility of missing out participants.

9.7 Reflections and lessons learnt

The study finds that there are opportunities for the tenement dwelling to be sociable. This is not to say that all tenement dwellings in Edinburgh are not sociable but there are

indications from this study that portrays that this is the case across the board. Also to an extent the outcome has been confirmed by a substantial amount of anecdotal information which has not been ethically tested and approved and hence cannot be used as evidence in this study.

This study found that an element of control over space, which is a fundamental source to encouraging positive social interactions, is minimal for the tenement dweller. The fact that all tenement dwelling design principles are similar (see images in figure 5.3.1) there is a need to look closely at the tenement dwelling. This has led to the recommendations made in section 9.4 of this chapter which aims to make tenement environments convivial to encourage positive social interactions.

To have an effective outcome from any future research in this area of people-environment research, the methodological suggestions provided in section 9.6 should be applied. It is also believed that, this research has made a significant contribution to knowledge in the area of creating health enhancing residential environments. Planning in the UK advocates for such environments but it is important to investigate what really works to make the place a success. This research has done this by identifying a way in which the experiencing of living in tenement dwellings in Edinburgh can be positive to enhance people's mental wellbeing.

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